Calendar No. 957

97TH CONGRESS *2d Session*	SENATE	REPORT No. 97-666

CLEAN AIR ACT AMENDMENTS OF 1982

REPORT

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

TO ACCOMPANY

S. 3041

together with

ADDITIONAL, SUPPLEMENTAL, AND MINORITY VIEWS

NOVEMBER 15, 1982.—Ordered to be printed
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CONTENTS

Page
General statement ... 1
Discussion of intent:
  Title I:
    Sec. 101—Indian tribes ... 9
    Sec. 102—Information for technology requirements ... 9
    Sec. 103—National secondary ambient air quality standards ... 10
    Sec. 104—Implementation plan revisions ... 10
    Sec. 105—New source permits and operating permits ... 11
    Sec. 106—Hazardous air pollutants ... 13
    Sec. 107—Primary nonferrous smelter orders ... 19
    Sec. 108—Noncompliance penalities ... 21
    Sec. 109—Ozone protection ... 22
    Sec. 110—Prevention of significant deterioration ... 25
    Sec. 111—Fugitive dust ... 39
    Sec. 112—Visibility ... 39
    Sec. 113—International pollution ... 41
    Secs. 114-119—Requirements for nonattainment areas ... 42
    Sec. 120—Interstate transport and acid precursor reduction ... 52
    Sec. 121—Interstate pollution ... 74
  Title II:
    Sec. 201—Heavy duty vehicle emissions ... 76
    Secs. 202-203—Emissions from light duty vehicles and light duty trucks ... 81
    Sec. 204—High altitude motor vehicle emissions ... 85
    Sec. 205—Sulfur emissions ... 88
    Sec. 206—Imported vehicles ... 88
    Sec. 207—Vehicle imports into territories ... 89
    Sec. 208—Lead in gasoline ... 90
    Sec. 209—Definitions ... 91
  Title III:
    Sec. 301—Judicial review ... 94
    Sec. 302—Award of fees ... 96
    Sec. 303—Authorizations for appropriations ... 96
    Sec. 304—Wood smoke study ... 97
    Sec. 305—Indoor air quality study ... 97
    Sec. 306—Cold weather carbon monoxide emissions study ... 98
Hearings ... 99
Rollcall votes ... 99
Evaluation of regulatory impact ... 99
Cost of legislation ... 100
Views:
  Senator Stafford ... 103
  Senator Baker ... 104
  Senators Gorton and Hart ... 105
  Senator Symms ... 109
  Senator Randolph ... 124
  Senator Burdick ... 126
Changes in existing law ... 126

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CLEAN AIR ACT AMENDMENT OF 1982

Filed NOVEMBER 15, 1982.—Ordered to be printed under authority of the order of the Senate of OCTOBER 2 (legislative day, SEPTEMBER 8), 1982

Mr. STAFFORD, from the Committee on Environment and Public Works, submitted the following

REPORT

together with

ADDITIONAL, SUPPLEMENTAL, AND MINORITY VIEWS

[To accompany S. 3041]

The Committee on Environment and Public Works report an original bill (S. 3041), to amend the Clean Air Act and recommends that the bill do pass.

GENERAL STATEMENT

On March 2, 1981, the Committee launched a comprehensive series of hearings to review provisions of the Clean Air Act. After 27 hearings and 33 markups the Committee has reported a bill that reflects the following conclusions about the Act:

1. Except with respect to the issue of interstate pollution, the Act provides a sound legal framework for dealing with air pollution problems in the nation. As with any complex law, as more experience is gained in its implementation, modifications to improve its operation and clarify Congressional intent are desirable.
2. Additional provisions are needed if the Act is to provide adequate means to address problems arising from air pollution that originates in one State and adversely affects health or welfare in another State.

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In the Clean Air Act of 1970 and the Clean Air Act Amendments of 1977, Congress set out to establish a sound division of responsibilities among Federal, State, and local governments for controlling air pollution. The principle that guided the adoption of provisions was to place responsibility for control of particular problems with the level of government closest to and most capable of dealing with them.

The Federal Government, through the Environmental Protection Agency, conducts research and sets air quality standards that protect public health and welfare. The Federal Government also sets requirements for the manufacture of motor vehicles, a function that does not lend itself to State-by-State regulation, and establishes, for new industrial facilities, minimum control requirements that serve as a reference point for State and local permitting agencies and ensure that lax pollution control requirements will not be a factor in interstate competition for new industry.

State and local agencies devise control plans that are specifically designed to achieve air quality standards in particular areas. The Act also contemplates that State and local officials will have primary responsibility for permitting new or modified industrial facilities. The Environmental Protection Agency is given a general oversight role to see that the law is correctly implemented nationwide and is required to take over actual implementation if a State fails to comply with the Act's requirements.

The record compiled by the Committee shows that the Act has been a major factor in the development of competent State and local air pollution control agencies throughout the country. The Committee, throughout its deliberations, sought to recognize this competence and to provide more flexibility and encouragement to State and local authorities to carry out the provisions of the Act. The record also demonstrates that certain changes in the Act are desirable to eliminate what have become unnecessary and duplicative reviews by EPA of State and local decisions. For this reason the Committee has approved provisions that reduce the extent of the review EPA is required to give routine actions proposed by a State and that direct the Agency to concentrate its resources on those State decisions that are likely to have significant effects on air quality.

The Committee amendments specifically provide for automatic approval of actions that are proposed by a State, that are uncontested during a public comment period and that are not disapproved by EPA within a specified time. The bill also allows States to develop generic programs that would dramatically reduce the number of individual routine State decisions EPA must review. Those changes should expedite the processing of permits and other control decisions as well as improve the working relationship between EPA and the States.

The Committee bill contains revisions to provisions of the Act dealing with the prevention of significant deterioration (PSD). In adopting the PSD program in 1977, Congress intended the States to play the major role in implementing its provisions. A majority of States have not yet sought full delegation of authority for the program, in part because of the uncertainty and complexity surrounding regulations developed to implement the Act and to meet detailed requirements resulting from extensive litigation. It is imperative, if the PSD program is to function as an air quality management tool to protect the Nation's clean air resources, that more States take an active and creative role in its implementation. The Committee revisions are intended to simplify the PSD program while continuing to protect the Nation's clean air areas and to encourage more States to take over the PSD program implementation.

The Committee bill retains the present PSD system for protecting areas of special national significance such as national parks and wilderness areas, but simplifies the process contemplated in the 1977 Amendments by which States are allowed to classify other areas according to the degree that air quality better than national ambient standards is to be preserved. The change also permits a State to adopt alternative long-term air quality management strategies to replace the current increment system for attainment areas other than those of national significance.

With respect to polluted areas of the Nation—the "nonattainment areas"—the Act has been successful in reducing levels of several pollutants and has undoubtedly kept other air pollution problems from getting worse. There is much to be done, however, before air quality throughout the Nation can be said to meet standards protective of public health.

In 1980, 10 years after passage of the landmark Clean Air Act of 1970, emissions of sulfur dioxide had decreased by 15 percent from 1970 levels despite a 10 percent increase in the amount of fossil fuel burned. Emissions of carbon monoxide which come primarily from motor vehicles were 25 percent less than in 1970 in spite of a 36 percent increase in vehicle miles traveled. Total suspended particulate matter—that is, dust and soot—from man-made sources decreased by 55 percent during the decade of the 1970's. Although reductions in the concentrations of these pollutants in the ambient air have not been as great as the reductions in emissions, there have been marked air quality improvements.

Despite improvements in air quality, there are still a significant number of areas that will not attain the health-based primary national ambient air quality standards by the deadlines established in the 1977 Amendments. For example, EPA estimates that seven standard metropolitan statistical areas (SMSA's) and 20 non-urban counties will not meet the primary standard for sulfur dioxide by the 1982 deadline. Over 120 SMSA's are projected to miss the 1982 deadline for attaining the total suspended particulate standard and fourteen are not expected to achieve the ozone standard by the 1982 attainment date they originally anticipated. In a few areas, EPA estimates that the ultimate attainment date of 1987 for ozone cannot be met, even with adoption of all reasonably available control measures.

The Committee recognizes that certain air pollution problems are proving more difficult than anticipated in the 1977 Amendments and has provided for extensions of attainment deadlines for areas where implementation of all reasonable measures will not achieve compliance with an ambient standard by the dates in existing law. The Committee bill also modifies the sanctions to be applied in areas that fail to meet attainment deadlines in order to provide the Administrator with greater flexibility to formulate a sanction to fit the magnitude of the area's failure to fulfill the requirements of the Act.

While progress in controlling the so-called "conventional" pollutants is evident, very little has been done since passage of the 1970 Act to identify and control hazardous air pollutants. Only seven substances have been listed as hazardous by EPA, and standards for controlling emissions have been issued for only four of the listed pollutants. The problem was described in testimony before the Committee by the Acting Administrator of EPA as "the presence in the air of numerous compounds which have been identified as potentially toxic in other environmental programs." The Committee recognizes that EPA has begun to accelerate its research on substances that may be hazardous air pollutants and to ensure continued work in this area, the Committee amendments require the Agency to identify, evaluate and determine whether to regulate at least forty substances suspected of being hazardous air pollutants over the next five years. The Committee bill also clarifies the criteria for setting emission standards for listed hazardous pollutants in order to remove some of the uncertainty that was stated in testimony before the Committee to be responsible for delays in regulation.

Auto emission standards.—The Committee heard extensive testimony on the issue of emission standards for motor vehicles. In particular, the automobile industry proposed relaxing tailpipe standards for light duty vehicles from the current level of 3.4 grams per mile (gpm) to 7 gpm for carbon monoxide (CO) and from 1.0 gpm to 2 gpm for oxides of nitrogen (NO_x). The automakers also requested changes in the Act's provisions for vehicle emissions at high altitudes.

The Committee decided to retain existing standards after reviewing extensive data on the effects on emissions and air quality of relaxing one or both standards, the possible cost savings to manufacturers and consumers attributable to such relaxations, and the effect those savings might have on improving the economic position of the Nation's automobile industry.

Exposure to nitrogen dioxide, one form of the oxides of nitrogen emitted by motor vehicles, causes pulmonary and respiratory illness in humans. Oxides of nitrogen also contribute to the formation of photochemical smog and other toxic compounds which adversely affect human health. Oxides of nitrogen are increasingly implicated in the formation of acid precipitation.

Total nationwide emissions of oxides of nitrogen have tripled in the past twenty-five years and are projected to continue to grow in the future. The increase in NO_x emissions will come primarily from stationary sources but even retaining the current 1.0 gpm emission standard for autos and assuming low growth rates in vehicle miles traveled, motor vehicles are projected by EPA to contribute 30 percent to total NO_x emissions in 1995.

In particular importance of continuing existing standards for light duty vehicles is shown in analyses conducted by the National Governors' Association (NGA) and the State and Territorial Air Pollution Program Administrators (STAPPA). These analyses concluded that relaxation of light duty vehicle emission standards for NO_x, together with continuation of current modest control requirements for truck emissions, would result in the following consequences:

—Average total loadings of NO_x would increase above levels otherwise projected to occur by 13-16 percent in 1987 and by 28-29 percent in the year 2000;

—Eight new areas could cease to attain the health-based national ambient air quality standard for NO_2 after 1982; and

—Eleven to fourteen areas could face the need to apply additional controls on industrial or other stationary facilities in order to reach or maintain the NO_2 ambient standard.

Violations of the ambient standard for carbon monoxide may be eliminated by the end of the decade if current automobile emission standards are retained and if inspection and maintenance programs are implemented. Results from the NGA and STAPPA survey show that relaxing standards will seriously impair the ability of some areas to meet the ambient CO standard. For example, the relaxed standard for automobiles is projected to delay attainment of the ambient CO standard in Denver and Albuquerque indefinitely and would delay attainment beyond the 1987 deadline in existing law for Mecklenburg County, North Carolina.

The Environmental Protection Agency has estimated that doubling the current emission standards for NO_x and CO will result in an average saving of $40 per car immediately and $100 per car by 1987. These savings would be achieved, in part, by removing the advanced technology that has permitted cars to achieve good fuel economy, and as EPA noted in a report it submitted to the Committee, "even small fuel economy improvements that might well result from more sophisticated fuel metering systems used under the more stringent standards could easily overwhelm the differences in the costs of the emission control systems, even at current fuel prices."

The bill does change the Act's provision requiring all light duty vehicles to meet Federal emission standards at all altitudes. The changes will provide continued protection of public health for citizens in both low and high altitude areas at a cost savings estimated by EPA to be as high as $4 billion over the period 1984-1988.

The Committee concluded, however, that with respect to the emission standards themselves, the degree of protection of public health and welfare afforded by retaining existing auto emission standards more than justifies the modest additional costs that accompany emission controls required to meet those standards.

Interstate pollution.—One major reason to adopt an air pollution control program at the Federal level is to provide State and local governments, as well as their citizens, with protection against air pollution from other States. Provisions included in the Clean Air Act to accomplish this goal have proven inadequate.

Most attention has focused on one specific interstate pollution problem, the problem of acid deposition, popularly referred to as acid rain. The Committee concluded after exhaustive review that the acid rain problem is serious enough to warrant a set of specific amendments to the law.

When sulfur—which is found in coal and oil—is burned, sulfur dioxide (SO_2) is created. Sulfur oxide is transported long distances, eventually being chemically transformed and deposited on the earth's surface as an acid. Nitrogen—found both in fuels and the atmosphere—undergoes a similar process, but this process and its effects are less well understood.

In some regions of the United States four of every five lakes and stream miles is vulnerable to acid rain. One of every three lakes and stream miles is already acid-altered in these regions.

Hundreds of lakes in the Adirondack region are showing signs of acid stress. Life is gone from many of these.

Many other regions of the United States are also vulnerable to acid rain. These include the eight New England States, Pennsylvania, West Virginia, northern Minnesota, Wisconsin, Michigan, parts of southern Appalachia in North and South Carolina, Florida, large parts of Washington, Oregon, Idaho and California.

Simulated acid rain applied in field experiments has been shown to cause crop losses. It is suspected of causing tree and forest loss.

Acid rain corrodes metal and erodes other building materials.

Finally, acid rain and its precursors pose both a direct and indirect threat to the health of millions of Americans. These pollutants can not only directly injure the respiratory system, but can mobilize heavy metals and other contaminants which find their way into drinking water and food.

Based on thousands of pages of testimony, a review of more than a dozen major studies and reports, as well as at least that many estimates of control costs, the Committee concluded that a process leading toward substantial reductions in sulfur emissions should begin now.

The bill requires an eight million ton reduction in emissions of sulfur dioxide from the 31 eastern States over a ten to twelve-year period. Eight million tons was selected as the reduction level, based on information currently available, as the minimum amount needed to protect most, but probably not all, lakes and streams.

The ten to twelve-year period before reductions are required to be accomplished is an extended one. The Committee chose such a period for two reasons. First, this will allow completion of additional research into the specifics of the acid rain phenomenon in advance of critical dates for implementing controls at specific sources.

Second, this schedule will allow costs of the control program to be minimized. By the mid-1990's additional high polluting electric utility units can be retired at lower costs. Between now and the end of the decade, new control technology such as the limestone injection/multi-stage burner combustion process can be commercially demonstrated in the United States. Use of such technology should minimize or eliminate any economic difficulty caused by shifting of coal types.

The 31-State region was defined because the acid rain problem and likely means to alleviate it are best defined for this region. This is also the region in which 85 percent of sulfur dioxide emissions in the nation originate.

While the most publicized example of the Act's inadequacies in controlling interstate pollution is the problem of acid rain, it is by no means the only example. In the Southwest, the interstate transport of urban smog from Southern California reduces visibility at the Grand Canyon. In the upper Midwest, automobile pollution originating in Chicago reaches citizens in Milwaukee. And in Connecticut, the imported burden of ozone is so great that officials estimate that shutting down the State's industries would still leave its citizens exposed to pollution above health-based ambient standards. The Committee concluded from reviewing these problems that generic changes were necessary to deal with interstate pollution. Therefore, the reported bill incorporates amendments to sections 110, 126, and 304 to require EPA to respond more effectively to cases of interstate pollution and to establish a clear right of action for parties injured by interstate pollution.

DISCUSSION OF INTENT

TITLE I

INDIAN TRIBES (SEC. 101)

SUMMARY

This section amends the definition of "air pollution control agency" in section 302 of the Act to make eligible for grants under section 105 any single agency designated by the governing body of a federally recognized Indian tribe. The section also amends section 105 of the Act to make clear (1) that grants to any agency so designated are not to be counted toward fulfilling the requirement that annual grants to agencies in each State must total at least one half of one percent of the total annual appropriations for grants under section 105, and (2) that no agency so designated is to be treated as a State and therefore entitled to the one half of one percent minimum allocation.

DISCUSSION

The Environmental Protection Agency has implemented a policy of making grants to an agency designated by an Indian tribe when the agency has the technical and legal ability to manage the tribe's air quality resources. The Committee amendment ratifies the policy adopted by EPA by providing a clear statutory basis for it.

INFORMATION FOR TECHNOLOGY REQUIREMENTS (SEC. 102)

SUMMARY

This section adds a new subsection to section 108 of existing law requiring the Administrator to make available to State agencies guidance documents to assist those agencies in making determinations regarding the best available control technology and reasonably available control technology.

DISCUSSION

Part C and part D of title I of the Act require case-by-case determinations of the best available control technology for proposed new and modified major stationary sources, and part D requires reasonably available control technology for existing sources. State determinations of control requirements should be made on the basis of current information on the level of control that has been achieved by or required for similar sources elsewhere in the country. The Environmental Protection Agency has already established a BACT clearinghouse to provide such information to State and local control agencies.

The Committee amendment is intended to encourage EPA to continue and improve its clearinghouse initiative and requires the Agency to publish guidance documents annually. The documents should be sufficiently detailed to enable air pollution control authorities to identify the most stringent emission limitation that has been achieved by or required for similar sources in order to assist in determining the appropriate emission limitation that is achievable by a proposed source or that is reasonable for an existing source. The documents should distinguish among different sizes, types and categories of sources to the extent that those differences result in substantial differences in operating characteristics and achievable emission reduction levels. For example, the documents should provide to the degree it can be ascertained, information on costs (operating and capital), energy use, reliability, design conditions, and operating characteristics of the control equipment.

NATIONAL SECONDARY AMBIENT AIR QUALITY STANDARDS (SEC. 103)

SUMMARY

Section 103 amends section 109(b)(2) of the Act, which defines the level of air quality to be specified by the national secondary air quality standards, by deleting the word "any" from the phrase "any known or anticipated adverse effects".

DISCUSSION

This amendment is the result of concern on the part of the Committee that section 109(b)(2) of the Clean Air Act could be interpreted as requiring that national secondary ambient air quality standards protect against effects on air quality which, although arguably "adverse," are insignificant in relation to the practical difficulties associated with the avoidance of such effects. For example, emissions of virtually any amount, no matter how small, of some pollutants may result in a minute but detectible adverse effect on visibility. It is not the intention of the Committee that section 109 (b)(2) be read as requiring that national secondary air quality standards protect against such effects, regardless of any other considerations.

In the Committee's view, none of the current secondary standards will need to be revised on account of this amendment, because the Administrator of EPA, in setting these standards, has effectively applied the current language of section 109(b)(2) in a manner consistent with this amendment. The purpose of this amendment is to preclude the possibility that an unreasonable interpretation might be given to the language of section 109(b)(2) in the future.

IMPLEMENTATION PLAN REVISIONS (SEC. 104)

SUMMARY

This section amends section 110(a)(3) of the Act to provide for automatic approval of State implementation plan revisions by EPA if the Administrator has not acted to disapprove the revision within 120 days of submission, unless objections have been filed at both the State and Federal levels. If an objection is filed, the Administrator has an additional 120 days to respond explicitly to the objection. The Administrator may extend the original period for review for one 60-day period.

DISCUSSION

During hearings to consider amendments to the Clean Air Act there was almost unanimous agreement that the process by which EPA reviews revisions to State implementation plans needs to be improved. The Committee heard of numerous noncontroversial plan revisions that had been submitted to EPA by States but had not been acted on several months or even years later. The amendment adopted by the Committee is designed to expedite action on non-controversial changes to State plans while insuring adequate consideration by EPA of objections to proposed revisions.

To encourage those who oppose a particular change to register their opposition early in the revision process, the amendment prohibits parties from objecting to a proposed change for the first time at the time of Federal review. Objections must have been filed during State proceeding in order to be raised during EPA's review. An exception to this requirement is made for a State that objects to the proposed revision of another State's plan; such an objection may be filed for the first time during EPA's consideration of the revision. This exception recognizes the almost impossible burden that would be imposed if each State were required to keep track of every proposed plan revision in every other State that might be in close enough proximity to adversely affect its air quality.

Both the State and EPA are required to provide public notice of proposed revisions, and the Administrator must provide sixty days for public comment. The amendment does not allow automatic approval of a proposed change if a comment objecting to the change is properly filed. Before a revision to which an objection has been filed can take effect, the Administrator must make an explicit determination not to disapprove it after reviewing the basis for the objection.

New Source Permits and Operating Permits (Sec. 105)

SUMMARY

This section amends section 110(a) (2) and (4) of existing law to specify elements that must be included in a State's new source review program for establishing or modifying control requirements in the State implementation plan in lieu of submitting every requirement to EPA for approval. The amendment also provides a 10-year period during which the Administrator may not require a source that has installed best available control technology (as defined in part C and part D) to comply with more stringent control requirements except for newly regulated or hazardous pollutants.

DISCUSSION

The revision of section 110(a) (4) of the Act specifies the elements of a new source review program that must be incorporated in an acceptable State implementation plan. The Committee amendment also establishes the level of emissions or potential emissions that will subject a modification of an existing source to a new source review at the same level as that which applies to new sources, that is, 100 tons or more per year. Existing law, as interpreted by the court in *Alabama Power Co.* v. *Costle*, 636 F.2d 323 (D.C. Cir. 1979), requires modifications that emit or have the potential to emit more than de minimis levels of a pollutant to undergo new source review.

The Administrator is prohibited from requiring major stationary sources which comply with best available control technology requirements to adopt more stringent controls for ten years from the date the new source permit is issued, unless additional controls are needed to comply with standards for pollutants not previously regulated under section 109 or 111 or to reduce levels of pollutants that pose a serious threat to public health.

This amendment is intended to provide owners and operators of new or modified major soucres a degree of certainty that their initial investments in control equipment will satisfy control requirements for at least ten years. Only in those instances where new threats to public health or welfare are discovered after controls have been installed could the Administrator require additional changes.

Once a permit application is deemed complete by the permitting authority, the Committee amendment prohibits the Administrator from imposing new administrative or procedural requirements for the issuance of the permit or for the calculation of emissions. This amendment is intended to provide a definite point at which a decision can be made by the permitting authority to approve or disapprove a permit application. Without such a provision, it is possible that changing requirements by EPA could delay a final decision by a State or local agency and interfere with orderly planning by the company proposing the new or modified source.

The Committee amendment provides an alternative to the provision in current law that requires a State to submit every revision of its implementation plan to EPA for review and approval. The amendment allows a State to develop a program for modifying or establishing emission limitations and schedules of compliance for all or any class of sources in the State that are subject to the State's implementation plan. If the program meets the criteria specified in the amendment, then only those new or modified emission limitations that would result in a potential net increase in emissions of a pollutant from a particular source or class of sources of 100 tons or more per year and those plan revisions that would delay compliance with an emission limitation for a particular source or class of sources that would reduce emissions by 100 tons or more annually, would have to be reviewed by EPA.

The Committee included the concept of "class of sources" as subject to the 100 ton or more requirment in order to insure that if a State makes a change in a generic implementation plan emission limitation that applies to a class of sources—for example, dry cleaning establishments—the potential aggeagate effect of the change must be considered in determining whether the change must be submitted to EPA. Thus, if the effect of such a generic change could be to increase annual emissions by ten tons each from twelve different establishments, the proposed change would have to be submitted to EPA for review.

The Committee does not intend this amendment to change the requirement of EPA's current "bubble" policy that, in order for a State to obtain approval for a program which permits emissions trading without the need for specific SIP revisions, the State's program must permit no net increase in actual emissions as a result of a trade. The requirement for no net increase in emissions is a sound condition upon such programs. The "operating permits" provision in the Committee bill applies only to a change in the emission limit of a particular source—not a combination of disparate sources—or to a change in a generic limitation that applies the same requirement to several sources in the same class.

HAZARDOUS AIR POLLUANTS (SEC. 106)

SUMMARY

This section adds to section 122 of the Act a new subsection (d), which requires the Administratior, within specified periods of time, to make decisions on whether to include a specified minimum number of substances or materials in the list of hazardous air pollutants under section 112(b)(1)(A). The Administrator is required within 60 days after enactment to identify at least 20 substances or materials, for which such a decision must be made within two years, after enactment. Certain substances or materials must be included in this group. In addition, the Administrator is required within 1 year after enactment to identify at least 20 more substances or materials, for which a decision whether to include such substances or materials on the list of hazardous air pollutants must be made within 5 years after enactment.

The Administrator must first consider substances and materials the Agency has already been evaluating for inclusion on the hazardous air pollutant list. Any recommendation of the National Toxicology Program, acting through its Director, must be included among the substances or materials on which a decision must be made within the specified time.

When identifying the substances or materials on which a decision must be made within 5 years, the Administrator must also identify any research study, or evaluation needed to provide information which will be required to decide whether a specific substance is a hazardous air pollutant. The Administrator, in cooperation with the National Toxicology Program, must establish a research program for obtaining that needed information, inluding a schedule enforceable under section 304(a)(2) as a non-discretionary duty of the Administrator, and identify the responsible agency and the source of funding for the research program.

Within the prescribed period for each substance or material identified, based on the available information, the Administrator is required to publish a determination that the substance is a hazardous air pollutant or that the Administrator does not find that the substance or material is a hazardous air pollutant, as defined in section 112(a)(1). If the Administrator does not make such a determination for an identified substance or material within the time required, that substance or material by operation of law is included in the list of hazardous air pollutants undr section 112(b)(1)(A). The Administrator will then be required to establish emission standards for that substance or material. A substance or material included in the hazardous air pollutant list in this manner may be removed from the list if the Administrator within 180 days receives a petition from an interested party and completes the evaluation by determining that the Administrator does not find that the substance or material is a hazardous air pollutant as defined in section 112(a)(1).

This section also amends section 112(b) of the Act to modify the manner in which emission standards are established for hazardous air pollutants. Under the amendment to section 112(b)(1)(A), the Administrator is required to identify each category of sources which emit a hazardous air pollutant in significant amounts, at the time the pollutant is added to the list. The reference in existing law to intention to establish an emission standard is deleted.

Section 112(b)(1)(B) is modified to provide one year, rather than 180 days, as the period after proposal of emission standards during which the Administrator must establish final emission standards. Emission standards are required to be established at the level which requires the greatest degree of emission reduction achievable through the application of the best system of continuous emission reduction available for the class or category of source. Before establishing an emission standard, the Administrator must determine whether an emission standard based on the best available control technology is adequate to protect the public health with an adequate margin of safety, and if not, to establish the emission standard at a more stringent level necessary to so protect public health. The minimum level of control required under this provision is the most stringent emission limitation shown by an adequate operating history to have been achieved in practice by a source of the same class or category.

Another amendment to section 112(b) allows the Administrator to distinguish among classes, types, sizes, and periods of remaining useful life, within a category of sources, when establishing emission standards.

Section 112(c)(1)(B) of the Clean Air Act is amended to allow the Administrator to establish a general effective date for the application of emission standards to existing sources, rather than consider case-by-case requests for waivers as under current law. That date may not be later than two years after promulgation of the emission standard.

Subsection (f) of this section acts as a savings provision, to assure that the amendments to the requirements for emission standards made by this bill do not affect emission standards previously promulgated under section 112 of the Act.

DISCUSSION

Section 112 was included in the 1970 Clean Air Act to address the problem of highly toxic air pollutants which were either localized in effect or not adequately regulated by the ambient air quality standards and implementation plans intended to protect public health from more common air pollutants. To date, regulatory action under section 112 has been disappointing.

In the face of increasing knowledge of the hazardous nature of many substances in widespread use, and documentation of the pervasive exposure of the population to toxic materials, the Environmental Protection Agency over the last decade has set emission standards under section 112 for only four hazardous air pollutants (asbestos, beryllium, mercury, and vinyl chloride). Another three have been listed as hazardous air pollutants under section 112(b)(1)(A) (arsenic, benzene, and radionuclides), but no emission standards have been promulgated. While it was anticipated that section 112 would apply only to the most hazardous—and, therefore, a relatively small number of—substances emitted into the air, the Committee has concluded that with chemical substances numbering in the hundreds of thousands, and hundreds of chemical substances known to be emitted into and present in the air, it is realistic to expect that the number of pollutants that pose special hazards and that therefore should be regulated under this section may well be at least an order of magnitude larger than the number regulated to date.

The Environmental Protection Agency has had under study a group of substances, winnowed from a candidate list of over 600 chemicals prepared by the Agency in 1976, which in the Agency's judgment demand careful examination to see if they are, in fact, hazardous air pollutants.

The Agency in early 1981 informed the Committee of a group of 37 substances under study, yet no decision on whether or not to list any of the substances as a hazardous air pollutant has been made. It is clear that the Environmental Protection Agency needs to devote more attention and resources to this problem.

The Agency has testified that one factor that makes it difficult to list a substance as a hazardous air pollutant under existing law is the possible interpretation that once a substance is listed, the law requires the Administrator to set standards that eliminate emissions of the substance. The extreme consequences apparently brought on by listing, according to this view, have led the Agency to produce exhaustive scientific evidence to support a decision to list a substance as a hazardous air pollutant.

The reported bill contains two approaches to improving the regulation of hazardous air polluants. First, through the decision-forcing mechanism of section 122, the Administrator is required to make at least a minimum number of decisions on whether to list substances as hazardous air pollutants. Second, the provisions of section 112 itself are modified to provide better guidance for setting emission standards by specifying a best-technology based benchmark for setting an emission standard, against which is applied an ultimate test of whether the standard protects public health with an adequate margin of safety.

The provisions requiring decisions on whether to list substances as hazardous air pollutants have two phases. The shorter-term requirement will have the Administrator identify within 60 days after enactment at least 20 substances or materials. A decision whether to list each such substance or material as a hazardous air pollutant must be made within two years after enactment. The substances identified in this first group are to be those on which the Agency has done the most analysis and can be expected to make a decision within the allotted time. This group must include all the substances and materials for which the Agency projects it will complete a health assessment within the two year period. The following are the substances and materials that the Agency has informed the Committee meet this requirement and that must be identified in the first group:

Acrylonitrile
Cadmium
Carbon Tetrachloride
Clorofluorocarbon 113
Chloroform
Chromium
Coke Oven Emissions
Epichlorohydrin
Ethylene Dichloride
Ethylene Oxide
Formaldehyde
Manganese
Methyl Chloroform
Methylene Chloride
Nickel
Perchloroethylene
Toluene
Trichloroethylene
Vinylidene Chloride

In addition, those other substances or materials which the Agency has under active consideration for inclusion in the hazardous air pollutant list, and for which the Agency possesses any positive human or other mammalian carcinogenicity test data, must be identified in the first group. It is important to note that animal test data indicating carcinogenicity will generally be a sufficient basis for listing such a substance or material as a hazardous air pollutant. A decision not to include a substance or material identified under section 122(d)(1)(A)(ii) in the list of hazardous air pollutants under section 112(b)(1)(A) would thus be justified only if the Agency in its evaluation found convincing evidence that there was no human exposure to the substance through air emissions or that the studies that provide the positive data were so substantially flawed in design or execution when judged by accepted scientific standards that they do not provide a basis for reasonably anticipating that the pollutant presents a hazard.

The National Toxicology Program is directed to make appropriate recommendations to the Administrator as to substances or materials which should be identified in the first or second groups on which decisions are required. Listing decisions must be made on any such recommendations. The National Toxicology Program is an interagency task force of Federal agencies involved in assessing substances for carcinogenicity and other toxicological problems. The bill provides that the Program will act through its Director, the Director of the National Institute of Environmental Health Sciences. The National Toxicology Program is invited to continue making recommendations on substances or materials for inclusion in the hazardous air pollutant list, after the process mandated by this bill is completed.

The second phase of the decision-forcing process requires the Administrator within one year after enactment to identify at least 20 substances in addition to those identified earlier. A decision whether to list each of these substances or materials as a hazardous air pollutant must be made within five years after enactment. This group of substances are to be those which appear to pose serious problems of air emission-related toxicity, but on which the Agency is not as far along in evaluating the need for regulation under section 112.

The provisions of the reported bill require the Administrator first to consider for identification in the first or second groups, the 37 substances or materials which the Agency has been evaluating. In place of one or more of the thirty-seven substances, the Agency may substitute other substances or materials, but only if the Administrator judges the threat to public health from such substituted substances or materials is more pressing.

It is likely that this second group of substances and materials will include some for which additional research, study, or evaluation will be necessary before the Administrator can make a determination on whether to list as a hazardous air pollutant. In order to provide assurance that, at the time a decision is required, the Administrator will have an adequate basis for deciding whether a substance is a hazardous air pollutant, at the time the second group is identified, the Administrator must also identify any research that will be needed to make a decision. Working with the National Toxicology Program, the Administrator must establish a schedule for initiating and completing such needed research, identify the agency responsible for undertaking the research (ordinarily the Environmental Protection Agency or a member of the National Toxicology Program), and identify the source and amount of funding for the research.

The necessary funding may already be available in the research budget of the Agency or a member of the National Toxicology Program. Funding for research or evaluation of health effects of conditions of exposure may be available under section 104(b) or 111 of the Comprehensive Environmental Response, Compensation, and Liability Act, if releases of the substance to be studied are reasonably related to an industry paying special taxes into the Hazardous Substance Response Trust Fund. While the language of the reported bill does not require the use of Superfund monies to conduct such research, to the extent necessary funds from the Trust Fund are not available, the Administrator must identify and secure other specific sources of funding for needed research on identified substances or materials.

The Committee bill makes no change in the definition of a hazardous air pollutant in section 112(a)(1). A substance or material must be listed as a hazardous air pollutant if, on the basis of the Agency's thorough evaluation of the evidence, the Administrator judges that it "may reasonably be anticipated" to increase mortality or grave illness. If the evidence clearly shows that the substance is not hazardous, or if on the evidence the Administrator does not find that the pollutant may reasonably be anticipated to cause such effects, then the Administrator should not list it.

When each substance or material is identified under section 122, the Administrator is required to establish a docket to receive scientific information and other comments of the public. Agency documents related to the substance or material are also to be placed in the docket. This docket, providing an opportunity for interested persons to submit information for Agency consideration, is to be comparable to that required under section 307(d) (2), (3), (4), and (5). It is not, however, intended to convert the decision process under section 122 or listing under 122(b)(1)(A) into a rule-making. As in the past, a determination under section 122(d)(4)(A), just as the inclusion of a substance on the list of hazardous air pollutants under section 112(b)(1)(A), is not a final agency action. A determination under section 122(d)(4)(B) not to list, which means that no emission standards will be promulgated, is, of course, a final agency action. When any determination (either to list or not to list) is published, the Administrator is requred to include a statement of the basis for the determination and the information available to the Administrator.

The reported bill specifically provides that neither the identification of a substance or material as a candidate for decision, nor the automatic listing of a substance or material due to the Administrator's failure to meet a deadline, should be deemed a presumption that the substance or material is in fact a hazardous air pollutant. The purpose of section 122(d) is to encourage and expedite decisions on whether substances are hazardous air pollutants, not to indict or condemn particular substances. Substances or materials identified for evaluation and a decision as to whether they are hazardous should not be treated as hazardous air pollutants until they are listed as such under section 112(b)(1)(A). The mere fact of identification of a substance or material should not be a basis for delay, denial, or modification of a permit or modification of an emission limitation for a source of that substance or material.

Not all chemical forms of a substance may be hazardous. Nickel is one example of a substance which will be among the first group to be evaluated. Some compounds of nickel are apparently not hazardous, while others are likely to be found to be hazardous air pollutants. The reported bill requires the Administrator to specify the chemical forms of a substance which are found to be hazardous air pollutants. This is an affirmative duty of the Administrator, even in a circumstance where the substance has been listed by operation of law.

After a substance or material has been included on the list of hazardous air pollutants under section 112(b)(1)(A), the Administrator must propose emission standards for the substance within 180 days. The Committee amendment allows the Administrator one year after proposal, rather than 180 days as under current law, to promulgate final emission standards. This longer time, together with the greater guidance on standard-setting and flexibility on classes and categories of sources, should overcome the barriers to developing emission standards the Agency has experienced in the past.

IIn establishing an emission standard, the Administrator will look first at the level of emission reduction which is achievable with the best available control technology and determine whether that degree of control is adequate to protect the public health with an adequate margin of safety. If not, the Administrator must establish the emission standard at the level necessary to protect the public health with an adequate margin of safety. The phrase "adequate margin of safety" was chosen, rather than "ample margin of safety" as in current law, for consistency of interpretation with section 109(b)(1).

Concepts in the determination of the best available control technology are similar to those under section 171(3), in part D. A method or system of continous emission reduction may be available for a class or category of sources if it can be appropriately transferred to that type of source. the minimum technological requirement, however, based on the most stringent emission limitation shown by an adequate operating history to have been achieved in practice, should be found in the same or highly similar class or category of sources. The phrases "adequate operating history" and "achieved in practice" are discussed in the portions of the report dealing with techonology requirements for nonattainment areas. In applying all these concepts, the Administrator must keep in mind the hazardous nature of these pollutants and the requirement to protect the public health with an adequate margin of safety.

As observed earlier, the reported bill does not change the definition of a hazardous air pollutant. Under current law, a "hazardous air pollutant" is defined in part as a pollutant "to which no ambient air quality standard is applicable." This phrase should not be interpreted to bar the Administrator from listing a pollutant under section 112(b)(1)(A) because the pollutant happens to be part of a broad class of chemicals or materials subject to national ambient air quality standards set on a generic basis under section 109. For example, the fact that implementation strategies to attain the ozone and hydrocarbon ambient air quality standards apply generically to hydrocarbons does not preclude the Agency from listing a particular hydrocarbon which is specially toxic as a hazardous air pollutant.

PRIMARY NONFERROUS SMELTER ORDERS (SEC. 107)

SUMMARY

This section extends the date by which primary nonferrous smelter orders must require final compliance with applicable sulfur dioxide emission limitations from January 1, 1988, to January 1, 1993, and permits the use of supplementary control strategies up to five percent of any calendar year as a means of complying with sulfur dioxide emission limitations.

DISCUSSION

In 1977 the Congress adopted section 119 of the Act to provide the primary nonferrous smelter industry with up to two five-year extensions of the deadline for installing continuous control technology for sulfur dioxide to be accomplished through issuance of nonferrous smelter orders. Inclusion of this section was based on a recognition by Congress of the unique technological and economic problems confronting the nonferrous metals industry. Under present law, the first order ends on January 1, 1983, and the second five-year order ends on January 1, 1988.

Testimony presented during Committee hearings made clear that the technological and economic problems confronting the primary nonferrous smelter industry in 1977 remain a concern. The industry has expended over $1.5 billion on air pollution control in the past 10 years. Further technology necessary to enable the industry to meet ultimate sulfur dioxide emission limitations solely through continuous controls without suffering significant loss of markets to foreign competitors is not reasonably available in every instance. Therefore, the Committee bill amends section 119(c)(2) to permit the extension of final compliance dates for primary nonferrous smelters on a case-by-case basis up until January 1, 1993. Under the amendment, the initial order ends no later than January 1, 1988, and the second order no later than January 1, 1993.

In providing for extensions until 1993, the Committee recognizes that the circumstances under which such an extension is granted for an individual smelter could change. Accordingly, new paragraph 119(e)(2) is included in the Committee bill. That paragraph grants any person the right to petition the Administrator who, if there is a showing of good cause, may conduct a public hearing to determine whether the second extension should be terminated because the cirumstances under which it was granted no longer exist. The paragraph also authorizes the Administrator to require disclosure of financial data that are necessary to resolve issues pertinent to the hearing, subject to appropriate protective order to prevent impairment of the smelter's competitive position. This provision is intended only to clarify, with respect to proceedings on an application for a second order, existing requirements for disclosure under section 114 of the Act.

Upon a decision made by the Administrator that a smelter order should be terminated, the smelter is granted a reasonable period of time to achieve compliance with the ultimate emission limitation, considering necessary construction lead times and other relevant factors.

The Committee bill adds a new subsection 119(g), which grants States discretion to establish sulfur dioxide emission limitations for existing smelters that permit *de minimis* use of supplementary control systems. *"De minimis" is defined as use of such controls no more than 5 percent of the time each year.*

If a State chooses to incorporate a supplementary control system for a smelter into its State implementation plan, the State implementation plan must include both emissions limits which are to be met by use of continuous emission reduction technology and the elements of the supplementary control system. In order to make supplementary control systems enforceable, the State implementation plan should contain the same requirements as a nonferrous smelter order for making the smelter operator liable for exceedances of a national ambient air quality standard (40 C.F.R. Part 57, Subpart D). If experience with the use of a supplementary control system shows that a national ambient air quality standard is not being maintained, then the State implementation plan should be revised to increase use of continuous emissions reduction technology to the extent necessary to attain and maintain that standard.

This provision was adopted on the basis of information showing that even where particular smelters have installed continuous controls that achieve a high level of SO_2 capture, adverse weather conditions, combined with certain terrain features, can make continuous compliance with the ambient sulfurmentary controls in such circumstances would permit maintenance of the ambient standards at vastly lower cost than if additional continuous controls were required. Permitting such use achieves an appropriate balance between control of smelter emissions and maintenance of a healthy domestic smelter industry. The Committee amendment makes clear that smelters must continue to maintain existing levels of continuous control and directs the Administrator to study the adequacy, reliability and enforceability of supplementary controls and report to Congress within five years.

The Committee has not recommended changes to section 119(b)(3) of the Act relating to the financial test to be used for granting an extension. However, the recent holding in *Kennecott Copper Corp.* v. *EPA, F.2d,* No. 80-2036 (D.C. Cir. 1982), which invalidated the Administrator's use of a closure standard as the only basis for granting an order, is consistent with the original intent of Congress. New regulations to be promulgated by the Agency should include as a basis for granting an extension a finding by the Administrator that failure to grant the extension would be likely to result in significant decreases in profitability, significant loss in sales, a closing of some mines or decreases in mining activity.

A new subparagraph (D) was added to subsection (a)(2) to address the problem of the application of the orders provided for by this amendment to smelters such as the smelter located in Ruston, Washington. The Ruston smelter is somewhat unique in its close proximity to a heavily populated area. For that reason, the Committee believes that it is particularly important that any additional order of the time for compliance be subject to prior local approval.

In December, 1981, following a full hearing, the Puget Sound Air Pollution Control Authority (Authority) granted the Ruston smelter a variance from Regulation I of the State implementation plan until December 31, 1982. The Authority also issued an order requiring full compliance with Regulation I by December 31, 1987, and requiring that certain interim measures be taken before that date. The Committee felt that any extension of such a compliance deadline or relaxation of the conditions of such an order should be a local decision. Therefore, while an extension of the time for compliance beyond 1987 is available to smelters such as the Ruston smelter by the terms of section 119, as amended, no such extension can be granted until there is first a local decision that such an extension or relaxation should be allowed. It is the Committee's intent that by requiring local action first, the decision of the local authority will not be influenced by the possibility of action at the Federal level.

The terms "variance" and "enforcement order," as used in subparagraph (d), are not intended to refer to any nonferrous smelter order issued pursuant to section 119 of the Act.

NONCOMPLIANCE PENALTIES (SEC. 108)

SUMMARY

Section 108 amends section 120 of the Act to specify that expenditures for short term emision reductions will directly offset noncompliance penalties.

DISCUSSION

Section 120 of existing law is designed to remove the economic advantage that a noncomplying plant enjoys by levying on the owner of the facility a penalty equal to the economic value of noncompliance minus any expenditures made to bring the source into and maintain compliance. In many cases, however, a facility is making expenditures and is moving toward permanent compliance, but is still emitting at a level well above desirable or legal limits. During this interim period before the point at which compliance is actually achieved, there may be considerable opportunity for substantial short term emission reductions through the use of noncapital-intensive interim technologies.

The Environmental Protection Agency has determined that under existing law the noncompliance penalty being levied should not be reduced by the cost of measures taken to reduce emissions during the interim period where those measures are not part of the ultimate compliance mechanism. The owner of the facility is thus not likely to take such steps because the plant would, in effect, be paying twice: once in the form of the section 120 penalty and once in the form of expenditures for the interim technology.

The Committee believes that this double payment requirement is a barrier to the use of interim technologies which could provide substantial environmental benefits immediately while more capital intensive permanent solutions are being put in place. The amendment adopted by the Committee requires penalty reductions for expenditures "for the purpose of achieving interim reductions of emissions . . . by a method approved by the Administrator. . . ." The approval of the Administrator is mandated to guard against the use of frivolous technologies which would not provide an environmental benefit but would substantially reduce the noncompliance penalty.

It is the Committee's intent that the Administrator approve interim emission reduction technologies on a generic basis where such approvals are appropriate. This approach would allow vendors of approved technologies to certify to their purchasers that credits would be granted if the emission source makes expenditures for the technology involved. Sources could also seek approval of credits on a case-by-case basis.

OZONE PROTECTION (SEC. 109)

SUMMARY

This section amends part B of title I regarding stratospheric ozone protection. It revises research and study authorizations in sections 153 and 154 of the Clean Air Act to give priority to improving methods of actual measurement of ozone depletion and to identifying, predicting, and quantifying the effects of stratospheric changes on human health and biological and crop productivity and morality, as well as ecosystem alterations. Section 156 is altered to require the President to submit annual reports on the status of actions taken with respect to international agreements on stratospheric ozone depletion studies and regulations. Section 157 is amended to structure the process of proposing future regulations.

Future regulation of chlorofluorocarbons (CFC's) under section 157 will require the Administrator of EPA to (1) first determine that CFC's are contributing to depletion of stratospheric ozone which is occurring, or is likely to occur, at a rate that may reasonably be anticipated to endanger the public health or welfare, or (2) first report that an international agreement has been entered into. Additionally, the Administrator is required to take into account any unresolved scientific questions and the availability of suitable alternative products—specifically considering the health implications of CFC chemical substitutes and the implications of ozone depletion for public health and welfare—in promulgating regulations under section 157.

DISCUSSION

Part B of title I was enacted in 1977 because of growing concern that some chemical compounds were causing the depletion of stratospheric ozone. Since stratospheric ozone acts as a shield to screen out much of the short-wavelength ultraviolet (UV) in sunlight, even slight changes in the ozone layer could result in large changes in the amount of damaging UV striking the earth. The major contributor to ozone depletion was thought at the time of enactment of part B to be chlorfluorocarbons (CFC's), then widely used as propellant for aerosol sprays. As substitute propellants were widely available non-essential aerosol uses of CFC's were banned in the United States starting in 1978, Further regulation of CFC's was authorized under section 157 at the discretion of the Administrator of the Environmental Protection Agency.

The ensuing 5 years of research, driven by discrepencies between theory and observation, have led to considerable improvement in our understanding of the effects on stratospheric ozone of releases of CFC's and other chemicals. As a result, previous discrepancies between estimates from models of stratospheric processes and actually observed concentrations of important species have been reduced. Nonetheless, important discrepancies remain, which means that there are still uncertainties inherent in the results of modelling exercises. Concurrently, techniques for the actual measurement of ozone depletion and trace species have developed and improved. While recent studies by the National Academy of Sciences have indicated that the projected future ozone depletion due ton CFC's—if they were the only chemicals or forces affecting the stratospheric reactions—is now calculated to be 5 to 9 percent versus the 15 to 18 percent calculated in 1979, the observational trends remain consistent with the stratospheric depletion hypothesis and the predicted results of current models.

Although the United States has prohibited the nonessential use of CFC's as aerosol propellants, few other nations have acted similarly. Thus, while usage in the United States has declined from predicted levels this is not the case worldwide. Further unilateral action by the United States might, therefore, have no appreciable effect on worldwide releases but result in serious dislocation within the American economy.

Consequently, the Committee approved proposed amendments to part B designed to continue improvement in ozone depletion research while structuring the procedures under which further regulation of CFC's should occur. These are designed to assure that priority is assigned to actual measurements and observations and to research into the identification, prediction and quantification of the effects of stratospheric ozone changes on human health, biological and crop productivity and mortality, and ecosystem (including aquatic ecosystems) alterations.

The Committee bill also requires enhanced international involvement in the evaluation of stratospheric ozone depletion. Current law requires the President to enter into international agreements on both research and regulatory activities related to potential stratospheric ozone depletion. The reported amendments require annual reports on international agreements beginning no later than two years after enactment. These reports shall include information on the nature, extent, and implications of any threat to the concentration of ozone in the stratosphere and the appropriate regulatory action proposed or taken by countries under these agreements to provide protection against stratospheric ozone depletion.

The Committee changes also provide more detailed guidance to the Administrator regarding further regulations of CFC's. Any future CFC regulations under section 157 should result under one or both of the following conditions. The Administrator shall (1) first determine that CFC's are contributing to stratospheric ozone depletion which is occurring, or is likely to occur, at a rate that may reasonably be anticipated to endanger the public health or welfare, or (2) first report that an international agreement relating to CFC's has been entered into. These decisions may be published concurrently with the regulations themselves.

The amendments do not prohibit regulation of CFC's. Rather, they assure that future regulation will be based on orderly procedures justifying such actions. Since stratospheric ozone depletion would result in global threats, the most prudent response in that situation is international action. However, unified international action is difficult to achieve. Consequently, in order to assure that domestic action would occur when public health or welfare is jeopardized, the Committee continues a second regulatory mechanism.

Under this mechanism for regulatory action the Administrator must make several related determinations in proposing additional regulations. The Administrator must also determine that depletion is occurring or is likely to occur "... at a rate that may reasonably be anticipated to endanger public health or welfare ..." and, in addition, the Administrator must determine that CFC's are contributing to stratospheric ozone depletion that is occurring or is likely to occur. Since other elements of the Committee's changes to part B include increased emphasis on detection of ozone depletion through actual measurement of ozone or trace species and on identifying and quantifying the threat to mankind and the global environment, such information should be utilized to the maximum degree that it is available, and further regulation of CFC's should be based on a reasonable judgment that control of CFC's will result in a positive benefit with respect to stratospheric ozone depletion.

Some CFC alternatives can pose acute health hazards. Consequently, the Administrator should take into account any unresolved scientific questions, the availability of suitable alternative products in promulgating future regulations and the health implications of CFC chemical substitutes. Similarly, the Administrator should consider the threat posed by ozone depletion to the public health and welfare in determining the prudent course of action. The need to balance competing health risks may never arise. Should it, however, the Administrator should examine all such risks in making a regulatory decision.

PREVENTION OF SIGNIFICANT DETERIORATION (SEC. 110)

SUMMARY

This section amends the prevention of significant deterioration (PSD) program established by subpart 1 of part C of title I of the Act.

Section 160 of the Act is amended to clarify that the purposes of the PSD program include protection of public health and welfare from known or anticipated adverse effects of air pollution, rather than protection of public health and welfare from "any" known or anticipated adverse effect of air pollution.

"Tracking" of the three-hour and 24-hour class II increments is eliminated, making those increments limits on the emissions from a single new facility rather than limits on the cumulative emissions from all facilities built since 1975.

The three-hour sulfur dioxide class II increment is eliminated in Alaska.

Class III is eliminated.

States are required to prepare classification plans indicating which PSD areas are class I, which are class II, and which will not be subject to any increments. For areas which will not be subject to any increments, States must establish long-term air quality goals and procedures for reviewing large new facilities to ensure they are consistent with attaining those goals.

The requirements of local government concurrence in PSD reclassifications and of prior analysis of certain effects of redesignations are eliminated.

The deadline for agency decisions on PSD permit applications is shortened, from one year to six months, for relatively small facilities.

The requirement that States notify EPA of PSD permit applications and decisions is narrowed, to apply only to large facilities and those affecting air quality of class I areas, instead of to all facilities.

The affirmative responsibility of Federal land managers to protect the air quality related values of class I areas is clarified, to specify that the responsibility extends to identifying the air quality-related values of individual areas, monitoring air quality in such areas, assisting in the determination of baseline concentration of such areas, and submitting information to the permitting authority when proposed facilities may affect air quality-related values.

A new process is established for consideration by the States of the effects of new facilities on visibility within integral vistas (as defined under section 111 of the bill). If a new facility would significantly impair visibility within an integral vista, the State can issue a PSD permit if it determines the issuance of the permit would be in the public interest.

The mandatory requirement for pre-consturction monioting of air quality is eliminated.

The requirement that air quality monitoring must cover a period of one year is eliminated.

The application of the PSD program to modifications of existing facilities is narrowed, so PSD permits are required only for modifications which will increase emissions from the facility by at least 100 tons of pollutant, instead of for all modifications increasing emissions by any amount.

New procedural requirements are established for the determination of best available control technology which will emit at least 500 tons per year of particulate matter or 1,000 tons per year of another pollutant, the permitting authority is required to first consider the most stringent controls required of a similar facility. If the BACT determination for the proposed facility is not as stringent as the most stringent controls required of a similar facility, the permitting authority shall provide information to the public on the difference.

The definition of baseline concentrations is clarified to specify that the baseline concentration of a PSD area is determined at the time of the first application for a new facility which will affect air quality in that area, regardless of where the new facility will be located.

The definition of baseline concentration is amended to specify that a new baseline concentration shall be determined when an area is redesignated as Class I.

DISCUSSION

The Committee recognizes that the PSD program is one of the most complex parts of the Act, and that its complexity has hampered its effectiveness. Many States have been reluctant to assume authority for conducting the PSD program, and without strong State participation, the program cannot achieve its intended goal of protecting the Nation's clean air areas. The Committee has therefore adopted numerous changes to simplify the program and to allow more State flexibility than under the current law. The Committee believes this reform of the PSD program not only will reduce the level of frustration experienced by those who must apply and comply with the program's many requirements, but also will encourage the States that have not yet done so to assume from EPA primary responsibility for implementing the program.

While making many changes that streamline the PSD program, however, the Committee exercised great care to not adopt changes that would undercut the basic 1977 congressional decision to preserve air quality in areas less polluted than the national air quality standards. That basic policy is as important and sound today as it was in 1977. The Committee therefore left intact those PSD provisions which experience has shown to be most effective in preserving existing air quality in clean air areas.

A discussion of the changes in the PSD program included in the Committee bill follows.

Purposes.—Subsection 110(a) of the bill amends section 160 of the Act (relating to the purposes of the PSD program) to specify that one such purpose is to "protect public health and welfare from actual or potential effects" of air pollution, instead of the current language expressing the purpose as "to protect public health and welfare from *any* actual or potential effect" of air pollution. (Emphasis added.)

This is a clarification that the program is not intended to protect against any conceivable anticipated adverse effect of air pollution. This change is merely a correction of imprecise wording. It does not represent an effort by the Committee to change any current administrative policies or practices.

The Committee bill does not otherwise change the current purposes of the PSD program. Those purposes continue to apply to the program as it would be modified by the bill.

Plan requirements, initial classifications.—The bill does not amend either section 161, regarding PSD requirements for implementation plans, or section 162, regarding initial classifications of PSD areas.

Especially important is the retention of the mandatory class I status given national parks, wilderness areas, international parks, and national memorial parks under the current law. The Committee continues to believe these important national areas deserve the guaranteed protection of their mandatory class I designations.

Increments and Ceilings.—Subsection 110(b) of the bill makes three substantive changes to section 163 of the Act, which establishes the increments of additional pollution allowed in the different classifications of PSD areas.

The first change eliminates the "tracking" of the short-term (3 hour and 24 hour) increments in class II areas. With this change, those increments will be limits on the pollution concentrations attributable to a single new facility, instead of continuing to be cumulative limits on the pollution increases caused by all sources since the PSD program began.

Ending the tracking of the short-term class II increments will eliminate the most complex and unreliable part of the computer modelling used to indicate whether emissions from a proposed facility will exceed the PSD increments. Predicting the short-term pollution concentrations which will be caused by a single facility is itself difficult, requiring analysis of at least 8,760 meterological scenarios; yet, even with this degree of analysis, current pollution dispersion models cannot predict short-term concentrations nearly as reliably as they predict long-term concentrations. These difficulties and uncertainties are compounded when the models are used to predict the short-term concentrations caused by the overlapping emissions from two or more facilities which are proposed or have been constructed since the PSD program began.

The Committee is aware that eliminating the tracking of the short-term increments effectively relaxes the class II increments. (The annual class II increments, which will continue to be cumulative constraints on the additional pollution from all post-1975 sources, are substantially less restrictive than the short-term increments.) The Committee concluded, however, that the additional burdens of the requirement for tracking of the short-term increments presently outweigh the benefits of this requirement.

Although the elimination of the tracking of the short-term class II increments will make them less restrictive, they still will be an important tool to limit additional pollution in class II areas. An EPA-funded analysis of new facilities permitted under the PSD program shows that the short-term increments are much more likely than the annual increments to minimize pollution increases even with the elimination of the tracking of the short-term increments.

The Committee's second change to the PSD increments eliminates the 3-hour sulfur dioxide increment in the State of Alaska. This change is prompted by two considerations. First, Alaska has more complex terrain than other States, and predictions of very short-term pollution concentrations are especially difficult in areas where uneven terrain affects wind patterns and therefore pollution dispersion. Second, 35.1 percent of Alaska is comprised of "mandatory" class II areas (important national lands which are class II and can be reclassified only as class I), compared to an average of 1.5 percent in other States. Since the State of Alaska does not have as much flexibility as other States to eliminate the class II increment system within its boundaries, it is more important in Alaska than elsewhere to simplify the class II increments.

The third change the Committee bill would make to the PSD increments is the elimination of class III. Instead of redesignating areas as class III, States could eliminate completely the PSD increment system in certain areas, as discussed later.

The Committee bill does not change the class I increments. These lands—the most important national lands and any additional lands so designated by a State—deserve the strict air quality protection of the current class I increments.

Area redesignation.—Subsection 110(c) of the Committee bill amends section 164 of the Act, which contains provisions for redesignation of PSD areas.

The key feature of the Committee amendments to this section of the law is the new authority for States to "opt out" of the PSD increment system, by designating a PSD area as "unclassified" instead of as class I or class II. The unclassified designation replaces the current class III. Unlike class III areas, unclassified areas will not be subject to PSD increments limiting the additional pollution concentrations which will be allowed.

States will be able to eliminate the PSD increment system anywhere except in the national lands which are mandatory class I areas or "mandatory" class II areas. The States therefore will have the option of eliminating the increment system in about 92 percent of the nation's land area (including about 66 percent of Alaska and 97.5 percent of the rest of the country).

The Committee decided to give States the new authority to eliminate the increment system because it believes the States are best qualified to consider competing interests in these lands on an area-by-area basis and determine where the increment system should be eliminated and where it should be retained as a safeguard against additional pollution increases.

The Committee is aware that State elimination of the increment system may lead to greater increases in sulfur dioxide and particulate matter levels in unclassified areas than would be allowed under the present law. However, the national ambient air quality standards will continue to provide an overall limit on pollution concentrations in unclassified area, and new and modified major emitting facilities in unclassified areas will continue to be subject to the requirement for best available control technology and to other PSD requirements. In addition, States will be required to establish new long-term air quality goals for unclassified areas, which might limit additional pollution in such areas.

A detailed discussion of the Committee's changes to the redesignation process follows.

The Committee amendments require each State to prepare, within 18 months of the date of enactment of the bill, a classification plan designating all PSD areas in the State as class I, as class II, or as unclassified (and therefore not subject to PSD increments).

The list of class I areas in a State must include all mandatory class I areas designated by section 162(a) of the Act. Those areas have been designated as class I by Congress, and their inclusion in the State's list of class I areas is for informational purposes. Any failure of a State to include a mandatory class I area in its classification plan would not affect the area's status as a class I area, and any effort by a State to redesignate such an area as class II or as unclassified would not be valid.

Similarly, the State must include all "mandatory" class II areas (other than any designated by the State as class I) in the list of class II areas. This listing is also for informational purposes. Any failure of the State to so list a "mandatory" class II area, or any effort to redesignate such an area as unclassified, would not change the area's status as a class II area.

A classification plan must specify the classification of every PSD area in the State. Areas may be described in the classification plan in any unambiguous manner. If a classification plan fails to specify the classification of a PSD area (other than a mandatory class I area), that area will continue to be class II, since all PSD areas (other than mandatory class I areas) are by operation of law class II until redesignated.

The classification of a PSD area as unclassified must be accompanied by provisions in the State implementation plan establishing the following:

(1) A comprehensive assessment of air quality in the area.—The assessment must be comprehensive in the sense that it must address air quality within the entire PSD area being designated as unclassified. The level of detail of the assessment will be determined by the State.

(2) Goals for air quality in the area during a long-term period covering at least 20 years, and provisions for periodic review (and if appropriate revision) of those goals.—The State is free to establish any air quality goals which are consistent with the Act. Examples of the kinds of goals a State might choose include the following:

—maintaining concentrations of air pollution which do not exceed the national ambient air quality standards;

—compliance with State-established increments of maximum allowable increases in pollution concentrations; or

—compliance with State-established ambient air quality standards.

Section 110(a)(2)(E) of the Act, which requires State implementation plans to include provisions to prohibit sources in one State from emitting pollution that interferes with PSD measures in another State, applies to whatever goals a State chooses for its prevention of significant deterioration program. Thus, pollution from sources in one State that interferes with the achievement of any PSD goal adopted by another State is a violation of the implementation plan of the State in which the emitting sources are located.

(3) Projections of emissions growth consistent with attainment of the goals.—These projections need not be specifications of the number and types of new facilities and related emissions which will be allowed, or any other kind of requirements limiting emissions growth. Instead, the projections should be indications of what additional emissions could be accommodated within the constraints of air quality goals.

(4) Requirements for review of certain new facilities to ensure consistency with the air quality goals.—The facilities subject to this review include all proposed new facilities which will emit at least 500 tons of particulate matter per year or at least 1,000 tons of any other air pollutant per year, and proposed modifications of major emitting facilities which will increase net emissions by at least such amounts, and which are proposed to be located in the unclassified area or could affect attainment of the air quality goals for the unclassified area. This requirement of consistency with the air quality goals is in addition to the other clean air requirements applying to the proposed facilities.

(5) Any other requirements which the State determines are necessary to ensure attainment of the air quality goals for the unclassified area.

State classification plans, and the required provisions for unclassified areas, must be amendments to State implementation plans. The classification plans must be adopted, and may be revised, in accordance with the provisions of section 110(a)(3) of the Act. In addition, there must be public hearings in at least three different locations in a State before a classification plan is adopted. The proposed plan must be available for inspection by the public prior to such hearings, and the State must provide opportunities for comment by local government officials and Federal land managers.

As a portion of a SIP, a State classification plan does not take effect until approved (or deemed approved) by the Administrator. The Administrator's review of a State classification plan will be limited to determining compliance with the specific requirements of the statute; the Administrator may not question or reverse a State's lawful exercise of judgment as to which areas should be classified in a particular fashion.

The requirements for State classification plans replace most provisions of the current law for redesignation of PSD areas. In particular, the Committee bill eliminates the requirements for the preparation of an analysis of the effects of a proposed redesignation, and

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the requirements for local government concurrence in the redesignation. The elimination of these requirements will make it easier for States to prepare their classification plans, and will remove current statutory obstacles to PSD redesignations.

While the requirement for State preparation of a PSD classification plan is mandatory, if a State fails to submit a classification plan within the required 18 month period, the current status of PSD areas is not affected. The Committee firmly believes States should have the option to eliminate the increment system by redesignating an area as unclassified, and that States should exercise that option wherever they deem it appropriate. The Committee rejected, however, a proposal to eliminate the class II increments automatically if States do not affirmatively adopt them. The elimination of the increments creates the possibility of substantial increases in sulfur dioxide and particulate matter concentrations, and the Committee believes a step of such significance should not be taken without an affirmative State decision.

The Committee amendments do not affect the current provision that PSD areas within the exterior boundaries of reservations of Federally recognized Indian tribes can be redesignated only by Indian tribes. Redesignations by Indian tribes must be in accordance with the redesignation requirements applying to States.

The Committee amendments also do not change the current Act's designations of certain important national lands as "mandatory" class II areas which can be redesignated only as class I. The important national values of these areas warrant this insurance that they will receive at least the minimum protection afforded by the class II increments.

The following table indicates for each State the number and acreage of mandatory class II areas, and the percentage of the State's area represented by those areas.

AREAS WHICH MAY ONLY BE RECLASSIFIED AS CLASS I OR AS CLASS II

State	Number	Acreage	Percent of state
Alabama	2	42,049	(1)
Alaska	57	134,347,145	35.1
Arizona	15	2,958,819	4.1
Arkansas	3	183,822	0.6
California	27	4,308,223	4.2
Colorado	31	1,924,299	2.9
Delaware	2	90,136	7.1
Florida	11	1,279,214	3.7
Georgia	7	161,043	0.4
Hawaii	1	254,418	6.2
Idaho	16	3,604,009	6.7
Illinois	4	81,875	0.2
Indiana	1	13,023	(1)
Iowa	3	61,015	0.2
Kansas	3	51,061	0.1
Kentucky	1	2,040	(1)
Louisiana	4	240,844	0.8
Maine	2	38,004	0.2
Maryland	2	53,893	0.9
Massachusetts	1	44,596	0.9
Michigan	4	225,271	0.6
Minnesota	11	269,027	0.5

AREAS WHICH MAY ONLY BE RECLASSIFIED AS CLASS I OR AS CLASS II—Continued

State	Number	Acreage	Percent of state
Mississippi	6	178,984	0.6
Missouri	4	38,772	(1)
Montana	18	2,735,368	2.9
Nebraska	4	139,052	0.3
Nevada	7	2,938,919	4.2
New Hampshire			
New Jersey	3	58,515	1.2
New Mexico	21	1,269,341	1.6
New York	3	89,394	0.3
North Carolina	7	164,655	0.5
North Dakota	7	174,540	0.4
Ohio	1	32,460	0.1
Oklahoma	4	119,489	0.3
Oregon	18	1,144,123	1.8
Pennsylvania	2	66,724	0.2
South Carolina	5	125,721	0.6
South Dakota	3	34,317	(1)
Tennessee	4	194,204	0.7
Texas	13	574,638	0.3
Utah	11	1,789,531	3.3
Vermont			
Virginia	2	230,995	0.9
Washington	10	554,676	1.3
West Virginia	1	100,000	0.6
Wisconsin	7	250,336	0.7
Wyoming	7	382,743	0.6
Territories	4	143,872	48.6
Total	380	163,765,195	7.0
Contiguous States	322	29,163,632	1.5

[1] Indicates less than 0.1 percent.

Source: EPA. Extracted from an attachment to a November 13, 1981, memorandum from the Director of EPA's Office of Transportation and Land Use Policy to the Assistant Administrator for Air, Noise and Radiation

Preconstruction requirements.—Subsection 110(d) of the bill amends section 165 of the Act, which establishes preconstruction requirements for major emitting facilities being located in PSD areas. The subsection includes six major changes to the preconstruction requirements.

The first change shortens the time period in which a PSD application for a relatively minor facility must be granted or denied. The Act now provides that completed PSD applications must be granted or denied within one year after they are filed. The Committee bill leaves this deadline in place for relatively large facilities—those emitting more than 500 tons per year of particulate matter or 1,000 tons per year of any other pollutant—but establishes a six-month deadline for facilities smaller than these size thresholds. This is a realistic deadline; a study done for EPA shows the average time between completion of a PSD application and final decision on the permit to be 4.9 months. The six-month deadline for relatively small facilities guarantees permit decisions will be made in a timely fashion, while preserving the ability of the permitting agencies to conduct more thorough reviews of the largest facilities. The Committee bill also provides that a permit applicant must be advised within two months of filing an initial application whether it is complete, and if not what additional information is necessary. This requirement will ensure early agency attention to a PSD application, thus avoiding substantial delays in the permit review.

The second change limits the current requirement that State agencies notify EPA of every application for a PSD permit and of every action taken on a permit, so that State agencies will be required to notify EPA only of applications for the largest facilities and for facilities affecting air quality within class I areas, and of the final decisions on those permit applications. Narrowing the requirement for State notifications will reduce substantially paperwork burdens on State agencies. Retaining the notification requirement for the largest sources and for the sources affecting class I areas will ensure that EPA (and the Federal land managers when appropriate) will continue to be made aware of proposed facilities which may have substantial effects on national interests.

The third change clarifies the existing statutory provision that Federal land managers have an affirmative responsibility to protect the "air quality-related values" of Federal class I areas. The language is clarified to specify that the affirmative responsibility to protect these values includes a responsibility to identify those values for individual class I areas; to file a notice and suppoting information in any case in which the Federal land manager determines that emissions from a proposed facility may cause or contribute to an adverse impact on those values of a class I area; and to gather air quality information which is necessary for determining the original baseline concentrations of class I areas and otherwise to protect those values. The affirmative responsibility with respect to integral vistas (which are further discussed below) extends only to submitting to the permitting authority a notice and supporting information when a proposed facility may affect visibility within a vista; the Federal land manager does not have any additional affirmative responsibility to protect visibility within vistas. The committee has clarified this statutory mandate to remove any possible questions about the type of particular responsibilities included within the current broad language and to ensure that the Federal land managers carry out their responsibilities with respect to class I areas. In particular, the Committee is concerned by the relative lack of attention paid by the Department of Agriculture and the Forest Service to the air quality-related values of national forest wilderness areas which are class I.

The fourth change in the preconstruction requirments establishes explicit guidelines for the consideration of the impacts of new facilities on integral vistas associated with certain national parks which are mandatory class I areas. Whether or to what extent the protection of visibility of class I areas includes protection of visibility within integral vistas has been a matter of controversy. EPA, in its regulations on visibility, has established requirements for the protection of vistas—views from within a class I area of a particular landmark or other feature outside the area. These regulations have been challenged in court as being unauthorized by Congress. The Committee believes the question of whether and to what extent visibility within intergal vistas is to be protected should be resolved by Congress. The Committee therefore has established a new, explicit statutory foundation for Federal and State actions with respect to impairment of visibility within intergral vistas.

The new statutory provisions substantially change the current intergral vista program established by EPA regulations. EPA regulations include a substantive Federal requirement that visibility within vistas be protected; a permit may be issued for a new facility which may affect a vista only if the issuance of the permit is consistent with reasonable progress toward the national goal of preventing any impairment of visibility within integral vistas. The Committee provisions eliminate this substantive Federal requirement. Instead, the States are given open-ended authority to detemine whether and to what extent it is in the public interest to protect visibility within vistas. The only Federal requirements are procedural. The only Federal role in the process is providing information to the State.

When a Federal land manager notifies a State that a proposed facility may affect visibility within a vista, the State must provide an opportunity during the existing PSD process for detailed comment by the Federal land manager and others on the possible effect on the vista.

If the State determines the facility will not cause or contribute to a significant impairment of visibility within the vista, the State may issue the permit. The determination of whether or not there will be significant impairment is to be made solely by the State. Neither the Federal land manager nor any other Federal official has any role in making this determination.

If the State determines there will be a significant impairment, the State may issue a permit anyway by determining the issuance of the permit would be in the public interest. The Committee was careful not to restrict the factors a State may consider in determining whether the construction of the facility will be in the public interest; the provision is deliberately open-ended to enable the State to consider any factors it considers relevant to the public interest. For example, the factors a State may wish to consider might include the economic output or activity of the proposed facility, any jobs which might be created by construction or operation of the facility, or any increased tax revenues to be generated by the facility. The State should weigh any such factors against the projected degree of impairment of visibility within the vista, and the public interest in preventing that impairment. The determination of whether or not the issuance of the permit is in the public interest is to be made solely by the State.

To ensure maximum State control over the decision of whether and to what extent to protect a vista, the Committee adopted a provision applying whenever EPA is issuing permits because a State has not assumed implementation of the PSD program. In those cases, EPA is required to give the Governor of the State an opportunity to recommend whether or not it would be in the public interest to issue a permit for a proposed facility which EPA has determined would significantly impair visiblity within a vista, and the Agency is required to follow any such recommendation of the Governor so long as the recommendation is consistent with the requirements of the Act.

The integral vistas which are subject to this process are those already identified by the National Park Service (in accordance with the new statutory definition of integral vistas which section 111 of the bill, discussed later, adds to section 169A of the Act).

The fifth change to the PSD preconstruction requirements eliminates the requirement that the analysis of a permit application must include monitoring of air quality at the site of the proposed facility and at other areas which may be affected by emissions from the facility. Instead, the State must require monitoring only when it is necessary or appropriate to determine whether a facility will comply with the PSD increments and the national ambient air quality standards. Some monitoring, whether by the State, the Federal land manager or the permit applicant, will always be necessary to determine the original baseline concentration of an area, but additional monitoring will not always be necessary to determine how much of the increment has been consumed since an area's baseline was calculated. This change will eliminate many unnecessary costs and delays in getting permits because air quality monitoring is by far the most expensive and time-consuming part of the PSD permit process. For example, in the two most costly cases of PSD permit process. For example, in the two most costly cases of PSD permit applications considered in a report prepared for EPA, the monitoring requirement accounted for an average of 75 percent of the total application cost.

The sixth change to the preconstruction requirements eliminates the current statutory presumption that on-site air quality monitoring (when it is required) be conducted for an entire year. The elimination of this requirement leaves entirely to the State the determination of how much monitoring data is necessary to enable the State to make a decision on issuance of the permit.

Other pollutants, enforcement, period before plan approval.—The Committee bill does not amend any provisions of section 166 of the Act (relating to other pollutants), section 167 (relating to enforcement), or section 168 (relating to the period before plan approval).

Definitions.—Subsection 110(e) of the Committee bill includes five changes to section 169 of the Act, which defines key PSD terms.

The first change defines modifications of existing facilities that are subject to the PSD permit review requirements as those modifications that will increase or have the potential to increase emissions of any pollutant by 100 tons or more per year. Current law, as interpreted by the court in *Alabama Power Company* v. *Costle*, 636 F.2d 323 (D.C. Cir. 1979), subjects any modification that emits *de minimis* levels of any pollutant to such review. The change recommended by the Committee will eliminate a substantial number of modifications but only a small portion of new emissions from a PSD review. A study by the National Commission on Air Quality showed that during one 18-month period, modifications resulting in net emissions increases of less than 100 tons per year represented approximately 40 percent of all modifications reviewed but less than five percent of the total new emissions of any pollutant.

The second change adds to the current definition of best available control technology (BACT) new procedural requirements to be followed in determining BACT for the largest major emitting facilities—those which will emit 500 tons or more of particulate matter or 1,000 tons or more per year of any other air pollutant. These new procedural requirements are designed to ensure that States exercise particular care in determining for the largest pollution sources the degree of control to be required under the current (and unchanged) definition of BACT. The new procedural requirements are necessary because the States (and EPA, which is still issuing PSD permits in most States) too often require facilities to comply merely with a new source performance standard (NSPS)—a generic, nationwide standard which is often weaker than can be achieved by new facilities—instead of determining whether a more stringent emission limitation is achievable by a proposed facility. A study conducted for the National Commission on Air Quality of PSD permits issued between April, 1978, and December, 1979, showed that more than half the facilities subject to a new source performance standard were required to comply just with that standard. Testimony before the Committee suggested that BACT was determined to be equal to NSPS even more often than suggested by this study, and that permitting agencies often do not even consider the possibility of requiring controls more stringent than required by a NSPS.

The new BACT procedure adopted by the Committee requires the permitting authority, before determining BACT for a large facility, to review the available information on the emission limitations required of and achieved by similar facilities, and determine the most stringent of those limitations. In determining BACT for the proposed facility, the agency must first consider that most stringent emission limitation. This procedural requirement is not a statutory presumption that the BACT for the proposed facility be determined to be the most stringent emission limitation identified by the agency; nor does the requirement change the current definition of BACT. Instead, the provision requires the agency to use the most stringent emission limitation which has been identified as a starting point in the process of determining BACT for the proposed facility. The agency has the authority, under the proposed definition of BACT, to determine that either a more stringent or a less stringent emission limitation will be BACT for the proposed facility. As under existing law an emission limitation may not be any less stringent than the applicable NSPS. If the BACT determination for the proposed facility is not as stringent as the most stringent controls required of a similar facility, the permitting authority must provide information to the public on the difference.

The large facilities subject to these procedural requirements are those which will emit 500 tons or more per year of particulate matter or 1,000 tons or more per year of any other pollutant.

The Committee provision limits the range of emission limitations which the agency must review, so the agency cannot be held liable if it did not consider air emission limitation for a similar facility about which the agency had no notice.

Other than as specifically provided or directed by the bill or this report, the Committee does not intend any alteration in the interpretation of existing law by the court in *Alabama Power Company* v. *Costle*, 636 F.2d 323 (D.C. Cir. 1979). For example, the Committee does not intend to alter the practice whereby a proposed source can enter an enforceable agreement to limit its period of operation to define its "potential to emit." An example of this approach would be a class of sources with seasonal operation such as cotton gins. If a proposed cotton gin were to agree to operate no more than a specified number of hours per year, and that agreement were enforceable by Federal and State authorities and citizens, the potential to emit of the gin would be based on that actual limitation of operating time rather than an assumption of operation all hours of the year. If this time-limited operating plan resulted in a potential to emit below the threshold that requires a BACT review, the proposed cotton gin would not be required to go through the BACT review.

The third change to section 169 is an amendment to the definition of "baseline concentration" to clarify the time at which the baseline concentrations of an area are determined. The change specifies that the baseline concentrations of an area are determined as of the time of the first application for a PSD permit for a facility which has affected (in the case of a permit which has already been issued) or will affect particulate matter or sulfur dioxide concentrations in the area. The law currently states that the baseline concentration is determined as of the first application for a permit "in an area subject to this part". The change in the definition is intended to clarify that a permit application triggers the determination of baseline concentrations not only in the one area where the facility will be located, but also in *all PSD areas where air quality will be affected by the proposed facility*.

The clarification that a proposed facility will trigger baseline concentrations of all affected areas will necessitate a review by EPA to determine if its current regulations establishing criteria for when a facility will have a signficant impact on a PSD area comply with the new statutory provision. In particular, the Committee is concerned that the current criteria—that an area is significantly impacted when a new facility will change particulate matter or sulfur dioxide concentrations by an average of one microgram or more per cubic meter on an annual basis—is not an adequate measure of when air quality in a class I area is affected.

For example, government reviews of the air quality effects of oil shale development suggest that no single oil shale project will increase annual particulate matter or sulfur dioxide concentrations in the Flattops Wilderness—a mandatory class I area in Colorado downwind of the nation's richest oil shale deposits—sufficiently to constitute a significant impact under EPA's current regulations, so the baseline concentrations of the Flattops Wilderness might never be determined. Yet several oil shale projects could increase short-term pollution levels enough to exceed the class I increments if that new pollution were counted against the increments instead of being within as-yet-uncalculated baseline concentrations.

In reviewing its regulations to determine if they are consistent with the clarified definition of a baseline concentration, EPA, at a minimum, should consider whether the criteria for when air quality in a class I area is "affected" should be revised to establish short-term pollution increases as criteria in addition to the current annual increase criteria; whether to establish for class I areas smaller numerical values for the pollution increases which trigger determination of baseline concentrations; or whether other changes are necessary to ensure pollution levels in class I areas do not increase before baseline concentrations are determined by amounts which would exceed the increments.

The clarifying amendment to the definition of baseline concentrations also will require EPA to exercise caution in any further consideration of the change in the regulations on baseline concentrations which was proposed on January 21, 1982. The *Federal Register* notice accompanying the proposed rule stated its effect would be that "a permit application for construction within a previously undifferentiated attainment area will establish the baseline air quality only for the county in which the proposed source will have a significant impact as defined in EPA's regulations." The Committee emphasizes that a permit for a new facility triggers the determination of baseline concentrations in *all* PSD areas where air quality will be affected by emissions from the facility, regardless of political or geographic boundaries.

The fourth change to the definition section clarifies that Federal land managers may submit air quality information to the appropriate permitting agency to assist in the determination of baseline concentrations of areas within the jurisdiction.

The fifth change to the definition section provides for calculation of new, updated baseline concentrations followifng the redesignation of class II areas and class I. Under current law, a PSD area's baseline concentration does not change once it has been calculated, even if the area is subsequently redesignated. This could inhibit States from reclassifying an area as class I, since pollution increases occurring while the area was class II, could already exceed the class I increments. The effect of redesignating an area as class I then could be to require existing facilities constructed since 1975 to install additional controls or cease operations to bring pollution levels within the class I increments. The updated baseline will avoid this situation, since the pollution from these existing facilities will be included within the new baseline. The strict class I increments then would limit additional pollution from new facilities, but will not require retrofit of new control on existing facilities

FUGITIVE DUST (SEC. 111)

SUMMARY

Section 111(a) of the bill amends section 163(c) of the Act to permit the Governor of a State which has an approved PSD State implementation plan, after notice and opportunity for public hearing, to issue orders or promulgate rules excluding emissions of particulate matter composed of uncontaminated soil for the purpose of determining PSD increment consumption. Section 111(b) of the bill adds a new paragraph to section 163(c) which provides that in a State that does not have PSD permitting authority the Administrator of EPA may, and upon petition by the Governor shall, discount emissions of uncontaminated soil and certain other emissions for the purpose of determining PSD increment consumption, so long as the Governor concurs.

DISCUSSION

The purpose of this amendment is to allow the permitting authority in a State to exclude emissions of fugitive dust (denominated as "uncontaminated soil" in the amendment) associated with a new source when determining how much of an increment established by section 163(b) is consumed by such source.

The exclusion which this amendment would permit is limited to particulate emissions composed of soil which is uncontaminated by industrial activity. "Uncontaminated soil" is intended to refer to earthen material to which harmful material has not been added by industrial activity. Soil would be considered contaminated if as a result of industrial activity harmful material has been added to the soil or the soil has been changed by industrial activity so that it is harmful to public health or welfare.

This amendment is not intended to affect any authority the Administrator may have to change the definition of particulate matter through the rulemaking process.

Exclusion of fugitive dust from increment analysis is intended by the Committee to be a State responsibility. However, in States in which the Administrator is the PSD permitting authority this amendment provides that the Administrator, with the concurrence of the Governor, may exclude fugitive dust and certain other emissions from increment analysis on behalf of the State.

If a State assumes PSD permitting authority after the Administrator, pursuant to paragraph (4), has issued orders or promulgated rules excluding certain concentrations of pollutants from calculations of increment consumption in such State, it is not the intention of this amendment to require the separate reissuance or repromulgation of such orders or rules.

VISIBILITY (SEC. 112)

SUMMARY

Section 112 of the Committee bill amends section 169A of the Act, which provides for the protection of visibility in mandatory class I areas.

The purposes of the visibility protection program are clarified, to specify that the program is intended to prevent *significant* impairment of visibility in mandatory class I areas, instead of to prevent *any* such impairment.

A new provision is added to provide that EPA can require an existing source to adopt retrofit emission controls solely to prevent or remedy visibility impairment within an integral vista only if the Governor of the State in which the source is located does not determine that it would not be in the public interest to require the retrofit controls.

A new definition is added, defining an integral vista as any of the integral vistas included in the list published by the Department of the Interior for public comment.

DISCUSSION

The change to the purposes of the visibility section is a clarifying change, to avoid any possible future misinterpretations that the Act requires the prevention or elimination of any man-made impairment of visibility in mandatory class I areas, no matter how insignificant that impairment.

The new provision regarding retrofit controls to protect visibility within integral vistas is similar to the new provisions (in section 110 of the Committee bill, discussed above) regarding new source review of major emitting facilities which may affect visibility within integral vistas. Just as the PSD amendment gives States the sole authority to determine whether and to what extent they wish to protect visibility within integral vistas, this section gives States the authority to determine whether EPA actions taken under this section to protect visibility within integral vistas would be in the public interest. This provision is similar to the PSD provisions on integral vistas, in that (1) the determination of a Governor as to whether retrofit requirements would be in the public interest is to be made solely by the Governor and is not subject to substantive review or question by the Administrator or any other Federal official, and (2) the Governor is not restricted in the factors to be considered in determining whether retrofit requirements would be in the public interest.

The definition of integral vista limits, for the purposes of both the PSD section and the visibility section, the integral vistas subject to the provisions of the Act to those included in the Department of the Interior's notice published for public comment in the January 15, 1981, *Federal Register.* That list includes the integral vistas preliminarily identified by the Department of the Interior as essential to the experience of visitors to the mandatory class I areas within the jurisdiction of the National Park Service. (Those mandatory class I areas include the following classifications of land designated by Congress before August 7, 1977: international parks, national parks over 6,000 acres, national memorial parks over 5,000 acres, and national wilderness areas over 5,000 acres which are under National Park Service jurisidiction.)

The Committee recognizes that this list of vistas was published for public review and comment, and was not a final determination of the vistas to be protected under the current EPA regulations.

However, the Committee's provisions give States primacy in determining whether and to what extent visibility within these vistas should be protected, so the vistas included in the preliminary list can be further reviewed by States before they determine whether it is in the public interest to protect them.

Incorporation in the statute of the preliminary list of vistas published by the Department of the Interior establishes certainty that only the vistas identified by the National Park Service will be subject to the Act's provisions. By contrast, under EPA's current visibility regulations all Federal land managers now are reviewing all the mandatory class I areas in their jurisdiction to identify by December 31, 1985 all integral vistas which are essential to the experience of visitors to those areas. The Committee does not believe all these areas—including sections of national wildlife refuges and national forests which have been designated as wilderness—were set aside by Congress for purposes which make important a visitor's view of nearby landmarks or natural features. The Committee therefore decided to limit the integral vista program to the lands in the jurisdiction of the National Park Service—lands which have been set aside primarily for the use and enjoyment of visitors.

INTERNATIONAL POLLUTION (SEC. 113)

SUMMARY

This section amends section 171 of existing law to exclude the effect of emissions from immediately adjacent areas in foreign countries in determining whether the nonattainment provisions of the Act apply to an area in the United States that is exceeding a national ambient air quality standard. The exclusion of these emissions would apply only if the foreign country does not allow the United States the right to seek emissions reductions in that country under section 115 of the Act. The Committee amendment contains a congressional declaration that the President should undertake negotiations with foreign countries that do not provide this country with the right to seek reductions in emissions that are preventing areas in the United States from attaining ambient standards.

DISCUSSION

Part D of the Act contains provisions for areas that fail to achieve national ambient air quality standards, including stringent requirements for control technology and provisions for sanctions in areas that do not meet deadlines for attaining the standards. The Committee realizes that in some limited cases an area may fail to attain ambient standards because of emissions from immediately adjacent areas in a foreign country. While the Committee recognizes that failure to meet health based standards in such areas poses a continued risk to individuals living there and that ongoing efforts to attain these standards must be made, it believes that the real limitations of these areas to control foreign emissions must also be recognized. Thus, this amendment, under very limited circumstances, permits discounting the effect of emissions from a foreign country in determining whether an area is nonattainment.

First, it must be clear that even if an area adopted all reasonable control measures, it would still be prevented from attaining a national ambient standard for one or more pollutants because of emissions of the pollutant or pollutants (or precursors) from an immediately adjacent area in a foreign country. Second, the Administrator must determine that means do not exist to obtain emissions reductions in the other country. If these two conditions are met, the area would not be defined as a nonattainment area for the pollutant or pollutants in questions.

The Committee recognizes that it will be necessary for the Administrator to develop methods to define the magnitude of foreign emissions that are affecting U.S. areas. The Committee expects the Administrator to work closely with States that could be affected by this section to determine appropriate analytical methods. Additionally, it is important to clarify the concept of "an immediately adjacent area in a foreign country." The Committee intends this section to be applied in areas in the United States where air quality is clearly affected by emissions from the foreign country. For example, the cities of El Paso, Texas, and Juarez, Mexico, share a common border and a common airshed. This close proximity allows the air quality of El Paso to be affected by emissions from Juarez.

While the Committee realizes the need to recognize the problems in nonattainment areas affected by pollution from another country, this does not diminish the Committee's concern for public health in the areas faced with these problems. Consequently, this section includes a sense of the Congress declaration that the President, acting through the Secretary of State in consultation with the Administrator, should seek rights to require reductions of emissions in those foreign areas that are preventing areas in the United States from attaining health-based ambient standards.

REQUIREMENTS FOR NONATTAINMENT AREAS (Sec. 114–119)

SUMMARY

Section 114 of the bill deletes the term "lowest achievable emission rate" from the nonattainment provisions of the Act and requires new or modified sources constructed in nonattainment areas to adopt best available control technology (BACT). The definition of BACT is the same as in the PSD provisions with the added requirement that BACT for any source emitting a pollutant for which the area is nonattainment must be at least as stringent as emission limits (1) achieved in practice or (2) required by a permit issued in the same Federal administrative region, unless in the latter case the permitting authority determines that the level of emissions required in another permit is not achievable by the proposed new source.

Section 115 of the bill defines the term "major stationary source" for the purposes of the nonattainment provisions of the Act as including each discrete operation, unit or other activity which produces or may produce 100 tons or more per year of a pollutant for which the area in which the source is located is nonattainment.

Section 115 of the bill also defines the term "vehicle emission control inspection and maintenance program" as any emission inspection program that is as effective in reducing vehicle emissions as programs fully approved by EPA under the Clean Air Act Amendments of 1977, or, for areas which are required to have inspection and maintenance (I/M) to meet photochemical oxidant but not carbon monoxide ambient standards and in which motor vehicles contribute less than one third of the total hydrocarbon emissions in the area, as a program that requires annual emissions testing or direct inspection of control equipment and that, together with other requirements, will provide for attainment of the photochemical oxidant standard by the applicable deadline.

Section 116 of the bill amends the Act to provide an alternative to construction bans in nonattainment areas and applies a "two-for-one" offset requirement in three sets of circumstances: (1) where an area remains nonattainment after the deadline for achieving the national primary ambient air quality standard has passed; (2) where the State has not submitted a State implementation plan (SIP) that provides for reasonable further progress sufficient to meet the ambient air quality standard by the deadlines and for adoption of reasonably available control technology, that contains an adequate emissions inventory, that provides for a vehicle inspection and maintenance program (if required), or that provides for offsets (or a comparable program) for emissions from new sources; or (3) where a State or local government is failing to implement an approved SIP. A new or modified source may be constructed under the listed circumstances if offsets equal to twice the emissions from the new or modified source are obtained from existing sources.

Section 117(a) of the bill provides an extension to December 31, 1984, of a State's deadline for attaining any primary ambient standard upon (1) the State's submission of an application that certifies that attainment could not be achieved by the December 31, 1982, deadline despite implementation of all measures in its approved or promulgated implementation plan, and (2) an agreement by the State not to relax any emission limitation in an approved plan.

In order to get an extension beyond 1984 the State must submit no later than December 31, 1984, a SIP revision that provides for attainment no later than December 31 1985, for sulfur dioxide, nitrogen dioxide and particulates, and no later than December 31, 1987, for ozone and carbon monoxide. If acceptable plans are submitted, deadlines could be extended to no later than 1985 or 1987, depending on the pollutant.

Areas in which the 1979 or 1980 photochemical oxidant or carbon monoxide levels were at least twice the primary ambient standard and which the Administrator determines cannot meet the 1987 oxidant or carbon monoxide deadline despite implementing (1) all reasonably available control technologies as determined by the Administrator, (2) an offset or equivalent program, and (3) a vehicle inspection and maintenance program, will be able to extent their attainment deadlines until December 31, 1992, at the latest.

An area in which the 1979 and 1980 oxidant level was less than twice the primary standard may, during or after 1986, apply for a deadline extension beyond 1987. If the area is determined by the Administrator to be unable to meet the 1987 deadline despite adopting reasonably available control technology and an offset or equivalent program, and despite operating an I/M program, the State may submit a revised implementation plan that provides for attainment in the area no later than 1990.

No existing emission limit or schedule for compliance may be relaxed in any area which receives a deadline extension.

Section 117(b) of the bill requires State implementation plans to provide for operation of a vehicle inspection and maintenance program in any urbanized area which has a population greater than 200,000 which is seeking a deadline extension for carbon monoxide or photochemical oxidants beyond 1982, and, in the case of photochemical oxidants, in which the oxidant level in 1979 and 1980 exceeded the national primary standard by 50 percent or more. Operation of an I/M program is to begin as expeditiously as practicable which, in the case of areas that after enactment of the Clean Air Act Amendments of 1982 request extensions, means not later than January 1, 1985.

Section 117(b) also requires implementation plans to include reasonable measures to insure sound operation and maintenance practices to guarantee continuous compliance with SIP and permit requirements for major stationary sources.

Section 117(d) of the bill adds a provision to the Act that specifically describes one type of new growth allowance that is an acceptable alternative to case-by-case offsets in nonattainment areas.

Section 118 of the bill amends the Act to make explicit the authority of State or local governments to achieve emissions reductions from existing sources in nonattainment areas and then to permit those reductions, when paid for by the owner or operator of a proposed new or modified source, to be used as offsets by the proposed source. The bill makes clear that existing sources from which emission reductions may be achieved include mobile sources and other nonindustrial sources such as emissions from naturally occuring oil seepage.

Section 119 of the bill allows the Administrator to determine to what extent and in which categories grants under the Act or under the Federal-Aid Highway program should be withheld from States or local governments that do not submit or carry out acceptable implementation plans. The Secretary of Transportation may not approve projects or make grants in areas that are not planning or implementing required vehicle inspection and maintenance programs by the established deadlines. Highway grants for Interstate construction, safety, mass transit, landscaping, noise attenuation barriers, or transportation improvement projects related to air quality may not be withheld.

DISCUSSION

The amendments to the nonattainment provisions of the Act adopted by the Committee accomplish three general objectives: first, under rigorous conditions they permit the extension of deadlines for attaining national primary ambient air quality standards in those areas that, despite making the efforts required by the Clean Air Act, are unable to meet the deadlines in existing law.

Second, the amendments revise certain provisions either to make them more consistent with other requirements of the Act, as in the replacement of the lowest achievable emission rate requirement with the best available control technology provision, or to make existing provisions more effective in accomplishing their goal, as in the case of revisions to the new source construction prohibitions and funding sanctions.

Third, the amendments clarify in several regards existing provisions of the Act, including the definition of the term "major stationary source" as applied to growth in nonattainment areas, the description of what constitutes an acceptable vehicle inspection and maintenance program, and description of a specific program that is acceptable under the Act to accommodate emissions from new or modified sources in nonattainment areas.

Deadlines and sanctions.—Provisions of section 117 of the bill permitting extension of deadlines for attaining primary ambient standards are designed to insure continued progress toward attainment. Under no circumstances may the grant of an extension permit a State of local government to relax or delay requirements already in effect. Extensions can be granted only in those cases where a State certifies and the Administrator determines that the State is unable to meet the deadline despite implementation of all reasonable controls. If such a determination cannot be made, the deadline may not be extended and the consequences of failing to meet the deadline will take effect.

The bill modifies the consequences of failing to comply with the requirements of the nonattainment provisions of the Act, including the requirement to attain primary air quality standards by the prescribed deadlines.

The Committee revised the outright construction moratorium in existing law to provide that a new or modified source may be constructed if offsets equal to twice the emissions from the new source are obtained from existing sources in the area. This revised sanction on construction of new or modified major sources takes effect only for inadequacies in enumerated elements of an implementation plan, rather than for failure to comply with any plan requirements as under existing law. The enumerated elements—provision for reasonable further progress, adoption of reasonably available control technology, inclusion of an adequate emissions inventory, provision for an I/M program, and provisions for offsetting emissions from new or modified sources—are considered by the Committee to be the elements most critical in assuring continued progress in improving air quality.

Fundamental to any effective air quality improvement program is an emissions inventory that, in the words of the Act, is a "comprehensive, accurate, current inventory of actual emissions from all sources." Such an inventory must be based on actual emissions of each source and must include sources of fugitive emissions as well as smokestack emissions. It is the Committee's intent that, in approving State implementation plans providing attainment beyond the dates provided in the Clean Air Act Amendments of 1977, the Administrator review with great care the adequacy of the emissions inventories compiled by the States.

In addition to being imposed for inadequacies in the four enumerated elements of an implementation plan, the revised construction sanction comes into play when an area fails to achieve a primary ambient standard by the required deadline or fails to carry out requirements of an approved plan. The purpose of the multiple offset requirement is to keep air in a nonattainment area from getting dirtier or to encourage improvement, not to stop economic growth. It is designed to assure that rapid progress toward clean air continues even when an area failed to adopt or carry out an adequate clean-up program.

The Committee amendments in section 119 of the bill also modify the funding sanctions imposed for failure to submit or implement an acceptable implementation plan. Highway funds, with certain specified exceptions, may not be awarded by the Secretary of Transportation in any area that has failed to submit a required vehicle inspection and maintenance program or that is failing to implement an approved I/M program. Highway funds and air quality grants to State or local governments that fail to adopt or implement other elements of an acceptable implementation plan are also to be withheld to the extent and in the categories the Administrator determines to be appropriate. This provision changes existing law which imposes by operation of law the same penalty for all failures, no matter how minor. It will allow the Administrator to apply funding sanctions commensurate with the magnitude of a State of local government's failure to comply with the Act's requirements.

Nothing in these amendments to part D of the Act is intended to change the obligations of the Administrator under section 110(c) to promulgate plans or portions thereof when a State fails to adopt measures that comply with the Act. The Committee notes that certain important requirements of section 110(a)(2) and section 172 which are not changed by these amendments have not been met by many States. In particular, the Committee notes the largely unfulfilled requirements for source monitoring and reporting (section 110(a)(2)(F)) and for permit processing fees (section 110(a)(2)(K)). The Committee also notes that the Agency has in many instances not yet complied with its obligations under section 110(c) to remedy these deficiencies. The Committee, in the absence of actions by the States, expects the Administrator to carry out this duty forthwith.

Best available control technology.—The Clean Air Act Amendments of 1977 required that owners or operators proposing to construct or modify major stationary sources in nonattainment areas adopt controls that would result in the "lowest achievable emission rate." The definition of "lowest achievable emission rate" was the more stringent of either the most stringent emission limit achieved in practice by or required in an implementation plan for a source in the same class or category as the proposed source. If the owner or operator of a proposed source could show that an implementation plan requirement was not achievable for his source, that level of control would not be required. The lowest achievable emission rate was to be a rate that was actually, not just theoretically, possible. In determining achievability, the legislative history made clear that ". . . cost will have to be taken into account, but cost factors in the nonattainment context will have somewhat less weight than in determining new source performance standards under section 111. Of course, health considerations are of primary importance."

During the course of its deliberations on the 1982 Amendments, the Committee reviewed several proposals for changes to the new source control requirements for sources locating in nonattainment areas. While the Committee believes the policy adopted in the 1977 Amendments is sound, it recognizes the problems faced by permitting authorities that must, under current law, conduct different technology review processes depending upon whether an area is attainment or nonattainment for a particular pollutant. Consequently, the Committee amendments modify existing law to require the same permit analysis both in areas subject to part C (Prevention of Significant Deterioration) and, initially, in areas subject to part D (Nonattainment). The Committee added a further requirement to the technology review in nonattainment areas to bring about more stringent technology than might otherwise be required under the case-by-case best available control technology (BACT) review. Under the 1982 amendments, cost factors should continue, as under the 1977 amendments, to have less weight in the nonattainment context than in setting new source performance standards or BACT requirements for sources in areas that are attaining the ambient standards.

The first two subparagraphs in the definition of "best available control technology" for nonattainment areas (subparagraphs 171(3)(A) and (B)) are identical to the definition of BACT adopted by the Committee for areas that meet ambient standards. The first subparagraph explicitly directs the permitting authority to take into account energy, environmental and economic impacts and other costs in determining what emission limitation is achievable for a particular source. The second subparagraph requires the permitting agency, in setting the maximum degree of reduction of each pollutant achievable for a large source (one emitting more than 500 tons per year of particulate matter or 1000 tons or more per year of any other pollutant) to begin its permit review by considering the most stringent emission limitation required in a permit for or actually achieved by a source of the same size, type and class in order to determine if such a limitation is achievable by the proposed source.

The third subparagraph (Section 171(3)(C)) specifies requirements that must be satisfied for control of emissions of a pollutant for which the area in which the source will be located is nonattainment. Any major stationary source of such a pollutant must achieve an emission limitation at least as stringent as the more stringent of the following two limitations:

(1) An emissions limitation that has been achieved in practice, as shown by an adequate operating history, in the same Federal region, or,

(2) An emission limitation that has been permitted in the same Federal region, provided that the permitting authority determines it is achievable for the proposed source it is evaluating.

With respect to an emission limitation contained in a permit issued within the same Federal region but not yet achieved in practice, the permitting authority may again undertake an analysis to determine whether the permit limit is achievable for the proposed source. The term "achievable" in this instance has the same meaning that it has in the context of the BACT review in section 171(3)(A).

Unless the permitting authority determines that the limitation in the earlier permit is not achievable, the limitation would be required for the proposed source.

If an emission limit has been achieved in practice by a source of the same size, type and class in the same Federal administrative region, then that limitation is the level of control, at a minimum, that a proposed source must meet. Consideration of the factors in subparagraph (A) with respect to the application of such a limitation to the proposed source is no longer appropriate. Rather the issue that must be addressed is whether the technology has been achieved in practice as shown by an adequate operating history.

The phrase "shown by an adequate operating history" is included to make clear that "achieved in practice" means an emission limit that has been actually achieved, not one that is just theoretically achievable. For example, an emission limit that no existing facility has been able to meet more than a fraction of the time it was in operation could not be said to have been achieved in practice. Similarly, a technology that operated at a specified control level for only one or two months and then needed extensive modifications, renovation or replacement could not be said to have established in practice the specified control level. These are only two examples; there will almost certainly be others. The Committee's purpose in requiring an adequate operating history in the BACT permitting process is to emphasize the Committee's intent that the imposition of BACT should be based on control technology that works reasonably well under realistic production conditions.

The Committee is aware that there are few sources for which continuous monitoring records are available for long periods of time. The phrase "adequate operating history" is not intended to require such records where they are not available.

The permitting authority may distinguish among sizes, types and classes in identifying sources the emission limits for which will be the minimum requirement for a proposed source. These distinctions are specified as further clarification that BACT as required by the Act is to be actually, not just theoretically, achievable. Very significant differences between an existing and a proposed source in source size, or the processes they employ to make their product, could mean that emission limits achieved by the existing source are not achievable by the proposed source. It is not the Committee's intent, however, that distinctions based on size or process become an excuse for a proposed source to argue it should not have to meet emission limits already being met by similar sources. Almost never will any two major stationary sources be identical. If arguments about minor differences in size or process were accepted, a proposed major stationary source could successfully evade comparison with any existing source. The point is that, unless there are sound technological reasons that distinguish between similar sources, they should be subject to similar limitations.

Section 171(3)(E) specifies the universe of emission limitations the permitting authority is required to review in establishing

BACT for a proposed source. That universe consists of information which is readily available to the permitting authority and does not require the authority to conduct an extensive state-of-the-art survey. It is intended that the guidance provided to States by EPA under section 108(g) of the Act, as recommended by the Committee, be just such a survey of the state-of-the-art.

Definition of "major stationary source".—In the Clean Air Act Amendments of 1977 Congress spelled out conditions for allowing industrial growth in areas where the air did not meet the national health-based standards. The intent was to assure continued movement toward healthier air without foreclosing economic development.

The new source review provided for in section 173 of the 1977 amendments required that three conditions be met before a major new source or modification could be constructed in a nonattainment area:

(1) emissions from the new source must be offset on better than a one-for-one basis by reductions in emissions from existing sources;

(2) the new source must comply with strict emissions limits (lowest achievable emission rate under existing law); and

(3) the new source owner or operator must show that all other sources he owns or operates in the State are in compliance or on a schedule for compliance with all applicable emission limits.

Prior to revised regulations issued by EPA in October, 1981, any modification of an existing plant in a nonattainment area was required to undergo a new source review if the modification would result in an increase of 100 tons or more per year of a pollutant for which the area was not attaining the national ambient standard. The change in regulations permitted a State to exempt from new source review requirements any new unit or modification so long as reductions in emissions elsewhere in the same plant bring the net emission increase plantwide to less than 100 tons per year.

The revised regulations were challenged by environmental and health organizations, and on August 17, 1982, a three-judge panel of the United States Court of Appeals for the District of Columbia in *NRDC* v. *Gorsuch,* 685 F.2d 718 (D.C. Cir. 1982) vacated the 1981 regulations and held that "EPA's regulatory change, its employment of the bubble concept to shrink to relatively small size mandatory new source review in nonattainment areas, is impermissible."

The court's decision, which follows a line of analysis of the Act set out in *ASARCO, Inc.* v. *EPA,* 578 F.2d 319 (D.C. Cir. 1978) and *Alabama Power Co.* v. *Costle,* 636 F.2d 323 (D.C. Cir. 1979), correctly interprets congressional intent that the proposal to construct any new piece of process equipment that will emit 100 tons or more per year of a pollutant or to modify an existing piece of process equipment or other discrete element of a production process so as to increase emissions from that discrete element by 100 tons or more per year should trigger the new source review required by section 173.

The Committee amendment in section 114 of the bill makes clear in the statute the policy intended by Congress in 1977 and correctly stated by the court in *NRDC* v. *Gorsuch.*

Vehicle Inspection and Maintenance.—The Clean Air Act Amendments of 1977, as a condition for giving nonattainment areas a deadline beyond December 31, 1982, to meet the primary air quality standards for photochemical oxidants and carbon monoxide, required those areas to implement vehicle inspection and maintenance (I/M) programs. Since passage of the 1977 Amendments, EPA has developed guidelines for effective I/M programs and applied them to nonattainment areas that seek deadline extensions beyond 1982 and in which the population exceeds 200,000. The following forty-two urban areas in twenty-nine States are currently required to implement I/M programs:

Albuquerque, New Mexico
Baltimore, Maryland
Boston, Massachusetts
Bridgeport, Connecticut
Charlotte, North Carolina
Chicago, Illinois
Cincinnati, Ohio
Cleveland, Ohio
Colorado Springs, Colorado
Denver, Colorado
Detroit, Michigan
Eugene, Oregon
Fresno, California
Hartford, Connecticut
Houston, Texas
Jersey City, New Jersey
Las Vegas, Nevada
Los Angeles, California
Louisville, Kentucky
Memphis, Tennessee
Milwaukee, Wisconsin
Nashville, Tennessee
Newark, New Jersey
New Haven, Connecticut
New York City, New York
Paterson, New Jersey
Philadelphia, Pennsylvania
Phoenix, Arizona
Pittsburgh, Pennsylvania
Portland, Oregon
Providence, Rhode Island
Sacramento, California
St. Louis, Missouri
Salt Lake City, Utah
San Diego, California
San Francisco, California
Seattle, Washington
Springfield, Massachusetts
Tacoma, Washington
Trenton, New Jersey
Washington, D.C.-Virginia
Worcester, Connecticut

Information provided to the Committee during hearings and its deliberations on amendments to the Act clearly demonstrated the effectiveness of those I/M programs already in operation in reducing emissions from motor vehicles. These programs are especially effective in lowering ambient concentrations of carbon monoxide, a pollutant that in most areas is produced almost exclusively by motor vehicles.

The 1977 amendments gave EPA considerable discretion in approving I/M programs that had been designed by State or local control agencies for the specific problems of a given nonattainment area. While EPA's guidelines are clearly consistent with the requirements of the Act, they are not the sole set of criteria that comply with the Act's I/M provisions. With respect to controlling hydrocarbon emissions in order to reduce ambient levels of ozone, the Committee believes that the Agency, after taking in account circumstances in individual areas could exercise more flexibility in accepting elements of I/M programs that deviate from its guidelines.

Thus, in its bill the Committee distinguishes between the type of I/M program that must be adopted in areas where the ambient carbon monoxide standard is being exceeded and those programs for areas which are nonattainment only for photochemical oxidants and in which motor vehicle emissions account for less than one-third of total hydrocarbon emissions in the area. Areas in the latter category must operate an annual inspection program that may either provide for tests of emissions from vehicles or for direct inspection of emission control systems or components and that requires adjustment, repair or replacement of emission control elements that are found to be operating improperly.

The distinction between types of required programs is based on the degree of improvement in ambient concentrations of photochemical oxidants that can be expected to result from particular I/M programs. Where vehicles contribute less than one-third of total hydrocarbon emissions in an area, the added effectiveness in reducing ambient oxidant levels of requiring tests of vehicle exhaust as opposed to direct inspection of emission control systems or components appears to be small.

The Committee bill also recognizes that some areas that have not requested deadline extensions beyond 1982 for attaining primary standards for carbon monoxide or photochemical oxidants may fail to meet their December 31, 1982, deadline. The bill permits these areas to request extensions and requires those urbanized areas over 200,000 in population to implement necessary I/M programs.

Any area of greater than 200,000 population seeking to extend beyond 1982 its deadline for attaining the health-based carbon monoxide ambient standard must make provisions for an I/M program that is at least as effective as those already fully approved by EPA prior to enactment of the 1982 amendments and that will begin to operate as expeditiously as practicable but no later than January 1, 1985. The Environmental Protection Agency projects that the following urbanized areas of over 200,000 population will need extensions beyond their current December 31, 1982, deadline to meet the primary carbon monoxide standard:

Bakersfield, California
Chattanooga, Tennessee-Georgia
Columbus, Ohio
Duluth-Superior, Minnesota-Wisconsin
Kansas City, Missouri-Kansas
Knoxville, Tennessee
Miami, Florida
Minneapolis-St. Paul, Minnesota-Wisconsin
Raleigh-Durham, North Carolina
Richmond, Virginia
Wichita, Kansas

Areas of over 200,000 population that request an extension for attaining the photochemical oxidant standard and that experienced a third highest daily maximum one-hour average ozone concentration during 1979 and 1980 of .18 parts per million will also have to implement an I/M program no later than January 1, 1985.

Growth allowance.—In the 1977 Amendments to the Act, Congress provided two alternative mechanisms to assure that emissions from new sources in nonattainment areas would not delay achievement of national ambient air quality standards. A State could use the emissions offset concept or provide a growth allowance within its State implementation plan. Since 1977, there has been little effort to utilize the growth allowance concept. The Committee believes that the growth allowance has not been used, in part, because EPA has been extremely cautious in working with States to develop such programs. Consequently, the Committee has explicitly provided for one such growth allowance option.

Under the Committee amendment a State plan would meet the growth allowance requirements of section 172 of the Clean Air Act if it includes the following elements:

1. The State must have an approved emissions inventory for the nonattainment area and annual emissions from new and modified sources may not exceed one percent of the total annual emissions of the pollutant (or its precursor) for which the area is nonattainment.
2. The State must require best available control technology for all new or modified sources that emit, or have the potential to emit, 50 tons per year or more of the nonattainment pollutant or its precursor. The determination of the emission rate that will subject a source to the permit requirement must be made without including in the calculation any offsets of emissions from that source or other sources.
3. The State implementation plan must continue to demonstrate reasonable further progress toward attainment.

The Committee wants to encourage EPA and States to address growth within nonattainment areas as flexibly as can reasonably be accomplished. By explicitly describing one mechanism for establishing an acceptable growth allowance under section 172 of the Act, it is not the Committee's intent to preclude other alternatives.

PART E—INTERSTATE TRANSPORT AND ACID PRECURSOR REDUCTION (SEC. 120)

SUMMARY

Section 120 of the Committee bill adds a new part E to the Act, consisting of sections 180 through 187, to address the problem of acid deposition in the eastern United States.

Section 180, as added to the Act, sets out findings upon which part E is based and the purposes for adopting the new part.

New section 181 of the Act establishes an acid deposition impact region consisting of thirty-one States: the 26 States east of the Mississippi River and the 5 States contiguous to it on the west.

Section 182 of the Act requires a number of studies and demonstrations to be conducted:

(1) A two-year study of interstate transport of air pollutants outside the 31-State region is required.

(2) An increase of $10 million for each of five fiscal years is authorized for the Acid Precipitation Task Force established under the Energy Security Act and the Task Force is required to submit two comprehensive reports to Congress, one at the end of 1985 and a second at the end of 1987.

(3) The Task Force is required to support research on control technologies and low-polluting processes. Fifty million dollars for a demonstration of the use of an atmospheric fluidized bed combustion process by an electrical generating facility is authorized to be appropriated to the Task Force to finance a project to be conducted by the Tennessee Valley Authority and other appropriate participants if the non-Federal share of project costs is at least 75 percent.

(4) An Acid Precipitation Scientific Review Board, to be appointed by the National Academy of Sciences, is established to review available material on causes and effects of acid deposition, including work being done by the Task Force, and is required to report its findings and recommendations to Congress on June 30, 1986, and June 30, 1988.

(5) The Office of Technology Assessment is required to analyze the environmental benefits, the costs, and any effects on coal markets of control measures adopted by States or required by EPA and reported to Congress by EPA approximately four years after the date of enactment.

(6) The Administrator is required to compile an inventory of sources of oxides of nitrogen and in four years to report to Congress on methods for controlling emissions and recommended reductions in emissions of oxides of nitrogen.

(7) The Administrator and the Secretary of the Treasury are to conduct a study and report to Congress within four and one-half years on the feasibility of a system of fees on electrical generation in the acid deposition impact region as a means of equitably financing required reductions.

(8) The Administrator is given authority to conduct or make grants to States to conduct demonstration projects to restore damaged aquatic ecosystems, for which five million dollars is authorized for each of fiscal years 1983, 1984 and 1985.

Section 183 requires by January 1, 1995, a reduction in annual emissions of sulfur dioxide of eight million tons from the actual annual emissions level in 1980. Increases in sulfur dioxide emissions from major stationary sources which take place after January 1, 1981, must be offset by reductions elsewhere in the region by 1995, except for increases up to 1.5 pounds per million Btu resulting from conversion to coal of utility boilers or increases that take place in sources in a State that during 1980 had no utility boiler that had an actual annual sulfur dioxide emission rate greater than 1.2 pounds per million Btu. Increases in actual sulfur dioxide emission rates from existing major stationary sources after January 1, 1981, must be accompanied by simultaneous decreases elsewhere in the region. Any major stationary source of sulfur dioxide that starts operation after January 1, 1995, must provide for simultaneous reductions in emissions elsewhere in the region to offset its emissions unless it adopts best available control technology as defined in the Act and meets the most stringent emission limitation achieved by any source of the same size, type and class in the acid deposition region. Emissions of oxides of nitrogen from existing major stationary sources, except for coal conversions, may not increase over 1980 levels or levels experienced during a thirty-day period immediately prior to enactment, unless equivalent reductions are obtained in the region.

Section 184 calls for the Governors of States in the acid deposition region to enter into negotiations to allocate required reductions of sulfur dioxide among the 31 affected States and provides that any allocation scheme agreed to by the Governors of 75 percent of those States within 18 months of enactment will be binding and enforecable on all States in the region.

Section 185 provides that if the Governors fail to agree on an allocation scheme, each State's portion of the total required reduction will be equal to eight million tons multiplied by the ratio of emissions from utility boilers in the State in excess of 1.5 pounds per million Btu averaged over 1980 to the total of such emissions throughout the region. Within 42 months after enactment each State is to adopt and submit to EPA for review and approval measures needed to bring about its required sulfur dioxide reductons. Any major stationary source that proposes to achieve an emission limitation other than by innovative measures or replacement of existing facilities with new facilities must comply with its emission limit by January 1, 1993.

Section 185 also requires the owner or operator of any major stationary source which is not by the end of 1985 in full compliance with the sulfur dioxide implementation plan requirement applicable as of January 1, 1981, to meet a 30-day average emission limit of 1.2 pounds of sulfur dioxide per million Btu and subjects the owner or operator to noncompliance penalties under section 120 of the Act.

In a State that fails to submit or have approved the measures required by section 185, section 186 imposes a 30–day average emission limit of 1.2 pounds of sulfur dioxide per million Btu on the total system of fossil-fuel burning utility units that are in the region and owned or operated by a single entity.

Section 187 lists acceptable methods or programs to reduce emissions to the levels required.

DISCUSSION

Background.—Two of the pollutants which pervade the North American environment are oxides of sulfur and oxides of nitrogen. Each of these is regulated under the Clean Air Act because of the threat it poses to human health and the environment. But each of these two chemicals also undergoes transformations, leading to new and as yet unregulated pollutants which contribute to the phenomenon popularly called "acid rain."

Sulfur occurs naturally in coal and oil. Nitrogen occurs naturally in both fossil fuels and the air. When coal is burned, each of these two elements combines with oxygen to create gases. The nitrogen-based gases are usually referred to as oxides of nitrogen (NO_x), while the sulfur-based gas is sulfur dioxide (SO_2). These gases can undergo a series of complex chemical reactions to create nitric acid and sulfuric acid.

The acid compounds or their precursors, can either settle out of the atmosphere or be washed out in rain, snow, or fog. Because the chemicals can come to rest in either dry or wet forms, the term "acid deposition" is a more accurate description of the phenomenon than "acid rain". In this report, however, the terms are used interchangeably.

One measure of the acidity of a substance is its pH value. On a scale of 0 to 14 distilled water has a pH of 7.0. The lower the pH value, the more acidic a substance is; for example, lemon juice and vinegar have pH values of between 2 and 3. At the opposite end of the scale, ammonia and lye, two strong bases, have pH values in the range of 12 and 13. The pH scale is logarithmic—that is, each number on the scale differs by a factor of 10 from its neighboring number. Thus a pH value of 6 is 10 times more acidic than distilled water, a pH of 5 is 100 times more acidic, and pH of 4 is 1000 times more acidic. Normally rainfall is somewhat acidic due to the reaction of atmospheric moisture and carbon dioxide. Thus, "pure" rainfall has a pH of approximately 5.6. Rainfall in the eastern United States, eastern Canada, and most of Scandanavia routinely has pH values in the range of 4 to 5, often falls to values between 3 and 4, twice has been recorded as low as 2.4, and once, in Wheeling, West Virginia, was recorded at an all-time low of 1.5.

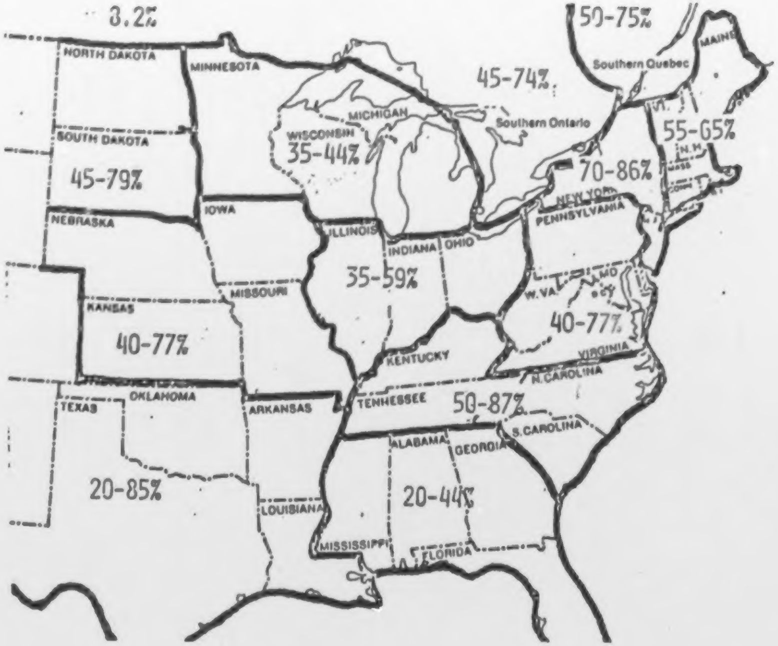
Wet deposition of sulfates and nitrates throughout North America have been measured and mapped. When these maps are compared to patterns showing the level of acidity in rainfall, the two correspond. These maps show that the areas with precipitation of the highest acidity (lowest pH) roughly coincide with areas of high deposition of sulfates and nitrates. The greatest deposition of sulfates, nitrates and acidity follows a corridor through the northeastern United States and southeastern Canada.

Computer models indicate that the source of much of the deposited sulfur in the Northeast and upper Midwest originates in the lower Midwest. This is consistent with the locations of the country's largest emitters of sulfur and nitrogen oxides (See Figure 1).

For some areas of the United States, up to 85 percent of the deposited sulfur originates outside their border (See Figure 2).

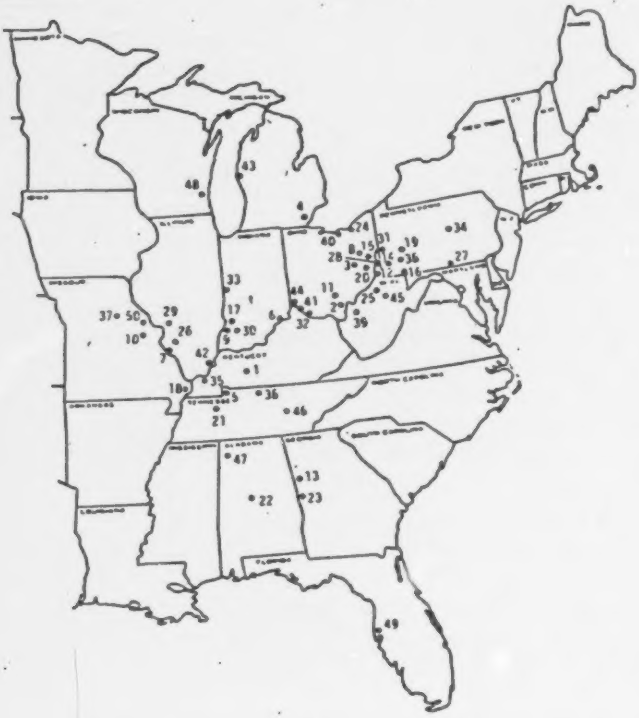
Figure 1

Total Deposited Sulfur Coming from Outside Region
(percent)


3.2%
NORTH DAKOTA
MINNESOTA
SOUTH DAKOTA
45-79%
NEBRASKA
KANSAS
40-77%
TEXAS
OKLAHOMA
20-85%
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
35-44%
MICHIGAN
ILLINOIS
INDIANA
OHIO
35-59%
KENTUCKY
TENNESSEE
50-87%
MISSISSIPPI
ALABAMA
GEORGIA
20-44%
FLORIDA
S.CAROLINA
N.CAROLINA
VIRGINIA
W.VA
MD
40-77%
PENNSYLVANIA
NEW YORK
70-86%
Southern Ontario
45-74%
Southern Quebec
50-75%
MAINE
N.H.
MASS
CONN
55-65%

Sources: Adapted from Bhumralkar, et al., "Application of a Regional Air Pollution Model (ENA MAP-1) to Study Interstate and International Sulfur Deposition Over Eastern USA and Canada", Paper Presented to the 1981 Air Pollution Control Association Annual Meeting, 1981; and E. H. Pechan & Associates, data from J. Shannon, Argonne National Laboratory, ASTRAP model, private communication.

Figure 2
Locations of the 50 Largest Uncontrolled SO_x Emitters*, 1979


43
48
4
24
40
31
19
34
8
15
28
36
27
3
20
12
16
33
44
11
41
25
45
2
39
32
17
6
29
37
50
26
30
10
9
7
42
1
35
18
5
36
46
21
47
13
22
23
49

* All emitters are utilities.

Source: M. Szabo et al, "Acid Rain: Control Strategies for Coal Fired Utility Boilers," (Morgantown, West Virginia: U.S. Department of Energy, Contract Number DE-AC21-81MC16361, May, 1981).

Many lakes and streams in regions where precipitation with a low pH value has been measured show a historical decline in pH, indicating increasing acidification of those waters. Some qualification of these historical data must be made, as some measuring techniques have changed with time and some pH values are calculated rather than measured values. Nevertheless, the data suggest increasing acidity, both in concentration and geographic extent. In a group of Adirondack lakes, for example, the ph value dropped from an average of about 6.8 in the 1930's to an average of about 4.8 in 1975.

In addition to acidifying aquatic lakes and streams, acid deposition also mobilizes aluminum and other metals which then enter the water bodies. An expert witness testified before the Committee as follows:

> By way of example, increasing acid concentration by 10 percent elicits a 33 percent increase in aluminum solubility. If you should double acid concentration, however, aluminum solubility increases 800 percent. If you should increase acid concentration by ten fold, as in the case with acid rain, aluminum solubility increases by a 1,000-fold, or 100,000 percent.

Fish mortalities have been documented as a result of increased aluminum concentrations, increased acidity, and the combination of these two factors. A 1980 recent inventory indicates that the brook trout fishery in Adirondack lakes has been severely affected by acidification. At least 180 former brook trout ponds in the Adirondacks will no longer support trout populations. A survey of 214 Adirondack lakes in 1975 revealed that 52 percent had surface pH levels below 5.0, and that 90 percent of these were entirely devoid of fish life. Some of these lakes had been surveyed between 1929 and 1937, when only 4 percent were below pH 5.0 and devoid of fish. During the intervening 40 years entire fish communities of brook trout, lake trout, white sucker, and bullhead were eliminated. Losses of brook trout populations in the Great Smokey Mountain National Park have also been associated with the acidity of streams and aluminum concentrations.

Based on extrapolations from models, the Office of Technology Assessment projects that in some regions about one out of every three stream miles and lakes has now been altered by acid rain. These models also predict that many more lakes and stream miles are vulnerable to acid rain (see Table 1).

TABLE 1.—TOTAL LAKE RESOURCES PRESENT AND AT RISK IN THE ACID SENSITIVE REGIONS OF THE EASTERN UNITED STATES

Region	Total number lakes (± 10 percent)	Percentage of lakes 200 ueq/ (± 10–20 percent)	Calculated number of lakes at risk (± 20 percent)	Calculated number of lakes alterd
1. Eastern Maine	1,425	80	1,140	413
2. Western New England	1,543	80	1,234	448
3. Adirondacks	1,139	80	911	422
4. East Pennslyvania/Southern New England	1,320	80	1,056	383
5. Western New York/Pennsylvania	376	80	301	139

TABLE 1.—TOTAL LAKE RESOURCES PRESENT AND AT RISK IN THE ACID SENSITIVE REGIONS OF THE EASTERN UNITED STATES—Continued

Region	Total number lakes (± 10 percent)	Percentage of lakes 200 ueq/ (± 10-20 percent)	Calculated number of lakes at risk (± 20 percent)	Calculated number of lakes alterd
6. Appalachian Plateau	13			
7. Blue Ridge/Great Smoky Mountains	126			
8. Coastal Plain	241			
9. Lower Mississippi	170			
10. Indiana/Kenutcky	9			
11. Central Wisconsin	583	42	245	117
12. Wisconsin/Michigan Highlands	5,307	42	2,228	1,061
13. Northeast Minnesota	1,637	48	786	0
14. Central Minnesota	3,170	48	1,522	0
Total	17,059		9,423	2,983

Source: Office of Technology Assessment.

In addition to convincing evidence of the damage acid rain brings to aquatic ecosystems, there is also evidence that acid deposition poses a risk to terrestrial ecosystems, including soils, forests, and crops.

In the United States, there have been widespread, substantial and sustained decreases in growth rate during the past two to three decades of red spruce and pitch pine. Unfavorable changes in tree growth have also occurred in Europe since 1950. One witness. Dr. Arthur Johnson of the University of Pennsylvania, testified as follows:

> [T]he reduction in growth and mortality cannot be attributed to climatic changes or any other obvious factors. Acid deposition is a plausible cause of contributing stress and has been implicated in some cases by statistical evidence.

The following impacts on North American forests are now suspected to be cause by acid rain:

—Red spruce in New England show reduced growth rates by one-half to two-thirds, and there are only about half as many living today as were living in 1965. Red spruce seedlings have disappeared entirely from some areas; other areas have experienced 32-to-80 percent reductions.

—Conifers in the Pine Barrens in New Jersey demonstrate reduced growth. Affected trees include shortleaf, loblolly, and pitch pines.

White pine, chestnut oak, and pitch pine in New York demonstrate reduced growth, possible due to chronic exposure to acid rain, NO_x, SO_2 and ozone.

Most studies of acid rain effects on crops have been conducted in the laboratory. Recent studies, however, have moved to the field. One researcher has exposed field soybeans to simulated rainfalls with different pH values, shielding the crops from natural rainfall with plastic covers. Soybeans exposed to rain with a pH of 4.1 suffered a yield reduction of 10.7 percent, compared to control crops exposed to "normal" rain of pH 5.6.

Identifying the effects that the constituents and precursors of acid rain have on public health is difficult. The mix of pollutants to which millions of Americans are regularly exposed is complex. Individuals vary in their sensitivity and apparent answers can be confounded by dozens of variables. Nonetheless, there are studies that show a correlation between concentrations of acid rain constituents and precursors and mortality.

While sulfur dioxide is generally not though to pose a significant health risk to normal persons at normal environmental concentrations, recent clinical evidence has shown that low-level SO_2 exposure can cause significant changes in lung function in asthmatics during mild or moderate exercise.

The primary problem with sulfur pollution is not sulfur dioxide, but the sulfate particles that result from chemical reactions of SO_2 with other substances in the atmosphere. These particles reach deeper into the lung than SO_2 gas and are retained longer before they are cleared and swallowed. If lung clearance is imparied, susceptibility to local infection, chronic disease, and cancer is likely to increase. Fine particles can also absorb polycyclic organic matter, some of which is know to cause cancer.

Populations at special risk of health damage from particulate sulfates include the elderly and adults with pre-existing chronic heart or lung disease. Children also appear to be susceptible to increased lower respiratory tract illness and more transient effects such as decreased lung function. Asthmatics of all ages are especially sensitive to lung irritation from all sources.

The Office of Technology Assessment has published a draft report which includes quantitative estimates of excess deaths due to sulfate-particulate air pollution. The techniques used in the study are highly controversial but are considered by many scientists to be reasonable, given the current state of knowledge.

Results from the study are included as one indicator of risks to health from sulfur emissions; more research is needed before confidence can be placed in quantitative estimates such as these. The study estimated that a 30 percent decrease in overall sulfur dioxide emissions in the United States and Canada by the year 2000 would reduce the number of excess deaths attributable to air pollution by 17,000, that is, from an estimated 57,000 without emissions reductions to 40,000 with the 30 percent reduction in SO_2.

Because acid rain mobilizes the heavy metals found naturally in the soil, it has the potential to cause the contamination of drinking water supplies. The city of Burlington, Vermont, has reported a sharp increase in the lead levels of its drinking water supplies and elevated heavy metal concentrations are found in the acid groundwaters of Central Sweden.

The Committee record demonstrated that the evidence of acid rain damage to aquatic systems is clear and compelling. Evidence of other damages—topsoils, forests, crops, and human field confirmation exist. Given the persuasiveness of the evidence and the magnitude of the risk, the Committee concluded that the time to act is now.

Findings and purposes.—The Committee's conclusions, based on thousands of pages of testimony and a careful review of more than a dozen major scientific studies and reports, as well as at least that many estimates of control costs—are embodied in section 180, which sets forth a series of findings.

First, the Committee found that the long-range transport of pollutants and their transformation products is an interstate and international problem. It is clear from the record that the problem of acid deposition has strained relations between the United States and its close ally, Canada. While an extensive discussion of this problem was intentionally avoided in this report, it is worth noting that many Canadians consider acid rain to be one of the most important issues in Canadian-U.S. relations. It is also clear that disputes between those States suffering the effects of acid rain and other States producing pollution which contribute to the problem are increasing, not diminishing.

The Committee's conclusions with respect to protection of public health and welfare, including economic welfare, are embodied in findings two through four, which state the following:

—current levels of emissions of air pollutants from existing sources as well as increased emissions from new and existing sources threaten public health and welfare and the environment in States and countries other than those in which emitted;

—reduction of total regional atmospheric loading of pollutants such as sulfur oxides and nitrogen oxides will enahnce protection of public health and welfare and the environment; and,

—more effective regulation of the interstate transport of air pollutants is needed in order to protect the health and welfare of the citizens of downwind States and the economic growth opportunities of downwind States.

With specific regard to acid deposition and its causes, the Committee concluded that the deposition of acid compounds from the atmosphere is causing and contributing to widespread and long-term degradation of ecosystems. Evidence before the Committee of this impact on aquatic ecosystems is conclusive, and on terrestrial ecosystems it is increasingly persuasive.

The Committee found that the principal source of acid compounds in the atmosphere and their precursors is the combustion of fossil fuels, especially coal. Sulfur dioxide emission levels rose sharply in the 1950's and 1960's, leveled off or declined slightly in the 1970's and will increase moderately between now and 2000 unless there is an acid deposition control program. Emissions of oxides of nitrogen have also increased and are projected to continue on a sharply upward trend.

The Committee concluded that strategies now exist which are economically feasible for the control of acid rain precursors. This is not to say that all controls are inexpensive, although some are. Control costs do, however, compare quite favorably to estimates of damages as calculated by Dr. Thomas D. Crocker of the University of Wyoming who estimated that annual losses due to acid deposition amount to $5 billion per year in 1978 dollars.

Finally and most importantly, the Committee found that curent and future generations of Americans will be adversely affected by delayed action, so that efforts to remedy the problem should commence now. Once depleted of their alkaline and nutrient reserves, soils require centuries to repair themselves even in those cases where recovery is possible. In contrast, control strategies, once they are adopted, will continue to pay benefits in terms of damage avoided for decades.

While the emission reductions required by the bill will not be required to take place for several years, planning for them starts upon enactment. This assures that if the research underway continues to reinforce present evidence, reductions may be achieved with no further or unnecessary delay.

By committing to reductions now, but with the opportunity for additional research and congressional mid-course corrections, that is, either increasing or decreasing the mandated reductions, the bill starts down the path of achieving its two overriding goals:

(1) Protecting the public health and welfare and the environment from any actual or potential adverse effects caused by ambient concentrations or deposition of air pollutants, including the products of atmospheric transformation; and,

(2) Preserving and protecting the rights and responsibilities of States to protect the public health and welfare and the environment of their citizens from air pollution originating in other States.

Establishment of a region.—Section 181 of the Act establishes a 31-State region comprised of those States east of or bordering on the Mississippi River.

In defining a region including these 31 States, the bill achieves two purposes: First, it defines a control region as an acid deposition impact region (throughout this report referred to as the "impact region") which includes both the donor and receptor States but excludes the States which are contributing to the problem in a small way. While emissions in States west of the Minnesota to Louisiana tier may be contributing to the acid rain problem in the East, they are not doing nearly as much as States that are included in the impact region.

Second, by drawing the line with the Minnesota tier, the bulk of the emissions of sulfur dioxide in the United States are captured. In 1980, it is estimated that 17.3 million tons of SO_2 were generated by utilities in the United States. Of this, 16.0 million tons were generated in the impact region.

Research and special studies.—Section 182 builds upon existing acid rain research programs and mandates new ones as well.

Subsection (a) requires the Administrator to conduct a study of air pollution problems caused by long range transport in States outside the impact region. This report must be submitted to the Congress within 2 years after enactment. This requirement is included because of the increasingly frequent reports of acid rain and acid rain damage in California, Colorado, Washington, and other western States, as well as regional haze in the Southwest.

Subsection (b) requires the Acid Precipitation Task Force created by title VII of the 1980 Energy Security Act to submit two comprehensive reports to the Congress. One must be submitted no later than December 31, 1985, and the second no later than December 31, 1987. These accelerated submission dates were carefully selected to assure that the Congress and the Nation will have available to them the best possible information on causes and effects of acid deposition in advance of critical dates for deciding on and implementing controls at specific pollution sources. An additional $10 million is authorized for each of the five fiscal years in question to assure that the level of funding is adequate for the preparation and submission of reports. The Task Force is to submit research findings and recommendations for reducing acid deposition and its effects.

Subsection (c) adds to the current responsibilities of the Task Force the development and demonstration of advanced technologies. These include atmospheric and pressurized fluidized bed combustion and other inherently low emission combustion processes such as limestone injection/multi-stage burner technologies.

Since the Tennessee Valley Authority already has a pilot project to test atmospheric fluidized bed combustion in an electrical generating facility, subsection (c) provides the Task Force with $50 million to fund a demonstration to be conducted by TVA and others, if appropriate, such as the Electric Power Research Institute. The non-Federal share of any such project must be at least 75 percent.

Creation in subsection (d) of a 15 member Acid Precipitation Scientific Review Board to be appointed by the National Academy of Sciences will assure the credibility of research conducted and the reports issued by the Task Force. It will also help to assure the contunued participation in the acid deposition debate of the National Academy of Sciences, which has provided much of the most helpful assessments of research thus far received by Congress.

The Board is to submit two reports, each within 6 months of the reports of the Task Force required by subsection (b). Each of the Board's submittals is to contain its views on the Task Force reports, as well as its own recommendations for reducing acid deposition and its effects. Again, the purpose of this independent review requirement is to assure that Congress will be provided with the best available information before critical decision points on controls are reached.

In addition to reports relating to scientific information and reduction methods, the Committee desired a review of the costs and benefits of the specific control requirements being proposed. Therefore, subsection (e) requires two additional reports, one from the Administrator of the Environmental Protection Agency, and the second from the Office of Technology Assessment (OTA).

The Administrator's report is to describe the emissions limitations or other enforceable measures which have been adopted or imposed under the reduction programs required by this bill.

The OTA report is to analyze costs, the possible effects on coal production, and the environmental benefits to be gained from implementation of the control requirements described by the Administrator. The Committee intends that the environmental analysis contain a discussion of the long-term benefits, including a listing and description of unique resources that will benefit from controls, especially those resources that will be of value to future generations.

Subsection (f) provides that upon receipt of all of these reports, this Committee and the House Committee on Energy and Commerce are to conduct hearings on the matters contained in the reports. This will allow the Committee to consider whatever midcourse corrections to the acid deposition control program may be appropriate after review of the information available at that time.

Subsection (g) requires the Administrator of the Environmental Protection Agency to develop information on the sources, amounts, and methods of controlling emissions of nitrogen oxides. The Committee initially considered instituting a reduction program for oxides of nitrogen comparable to that for oxides of sulfur. Because there is currently less information about the transport, effects and control of oxides of nitrogen, the Committee chose instead in section 183(e) to limit rate increases for oxides of nitrogen while providing in this subsection for the accumulation of information for the design of an effective emissions reduction program.

Subsection (h) requires the Secretary of the Treasury and the Administrator to conduct a study of the feasibility of a fee system on the generation of electrical energy for the purpose of financing emissions reductions. A principal focus for this study is the equitable distribution among States of funds resulting from such fees. Such a fee system could be comparable to that enacted in the Comprehensive Environmental Response, Compensation, and Liability Act (the "Superfund" law), which also includes a mechanism for recouping expenditures from responsible parties.

Subsection (i) authorizes a program of financial assistance to State or interstate agencies for the purpose of demonstrating new, innovative, or improved methods of neutralizing or restoring the buffering capacity of acid-altered waters no longer supporting game fish species. The Federal share of such costs is limited to 75 percent. Conventional liming is not a method eligible for support under this section.

Emission reduction requirements.—Section 183(a) requires that, within the impact region, by January 1, 1995, the annual rate of emissions of sulfur dioxide must be 8,000,000 tons less than were the actual emissions of the pollutant between January 1 and December 31 of 1980. This amount was selected by the Committee, based on information currently available, as the minimum amount needed to protect most, but probably not all lakes and streams.

Subsection (b) makes clear that to the extent that existing sources in the region increase their emissions or new sources begin operation in the region and thereby increase regional emissions, those increases must be offset by reductions in emissions from other sources in the region by January 1, 1995. Two exceptions are provided to the requirement for obtaining offsets for increased emissions: additional reductions will not be required when increased emissions take place in a State that during 1980 had no utility boiler emitting at an annual rate greater than 1.2 pounds of sulfur dioxide per million British thermal units (Btu) of heat input, and, if the increase results from conversion to coal of a utility boiler that is defined as coal capable under the Fuel Use Act, reduction will be required only to the extent emissions exceed an annual rate of 1.5 pounds per million Btu.

The two exceptions are based on considerations of fairness. Any State in which no utility was emitting more than 1.2 pounds of sulfur dioxide per million Btu in 1980 is already controlling sulfur dioxide emissions very stringently compared to other States in the region and, unlike most other States, has very few, if any, sources from which to obtain offsets for increases in emissions. The States of Connecticut, Louisiana, and Rhode Island and the District of Columbia qualify under this provision. With respect to the exception for coal conversions, to the extent that utilities that convert to coal emit no more than 1.5 pounds per million Btu, they are complying with the level of emission control for utilities regionwide that is estimated to achieve the required reductions.

Subsection (c) requires that whenever a major stationary source increases its rate of emissions over its rate in 1980, that is, its emissions relative to heat input or process output, there must be a simultaneous reduction in the region in excess of any increase resulting from the increased rate and in addition to any reductions already required by a State implementation plan or as a result of requirements under the acid deposition control provisions of the Act. The one exception to the simultaneous offset requirement is for rate increases in a State that, at the time of the increase, has in effect in an implementation plan an emission limitation applicable to all utility boilers that is 1.2 pounds or less sulfur dioxide per million Btu on an annual average. States that had such limitations in effect at the time of this report were Connecticut, Louisiana and Rhode Island and the District of Columbia.

To assure that emissions in the impact region do not begin to rise dramatically at the completion of the reduction period, subsection (d) requires that after January 1, 1995, offsets for emissions from new major stationary sources in the region must be obtained before the new source begins operation unless the new source has adopted best available control technology as defined by the Act and will attain an emission limitation at least as stringent as that actually achieved by any other similar source anywhere in the impact region.

Because oxides of nitrogen are known to contribute to acid deposition, the Committee included subsection (e) which prohibits increases in the rate (relative to heat input or process output) of emissions of oxides of nitrogen from major stationary sources over a baseline period, unless offsetting decreases in emissions that would not otherwise have been required are simultaneously achieved from sources in the impact region. Increases in emissions of oxides of nitrogen from coal capable utilities that convert to coal are exempted from the offset requirement.

Allocation of reductions by Governors.—Section 184 reflects the Committee's view that the most equitable allocation of reduction requirements among the 31 States in the impact region would result from negotiations and agreement among the Governors of those States. The section gives the Governors 18 months from the date of enactment to review alternative approaches to achieving emission reductions within their own States and the others in the region and to take into account such factors as the least costly means to achieve the required reductions and the comparative burden that must be borne by energy consumers in different States under different allocations. If the Governors of twenty-three or more States agree to an allocation scheme, that allocation would be enforceable on all States by EPA or by other parties.

State reduction requirements.—If the Governors do not agree to an allocation within the 18-month period, section 185 prescribes a formula for allocating reductions among the States. Each State's fraction of the 8,000,000 ton reduction is the ratio of total emissions of sulfur dioxide in excess of 1.5 pounds per million Btu from each utility unit in the State averaged over the calendar year 1980 to the total of such emissions in all the States in the region over the same period. Any two or more States may agree to reallocate required reductions among themselves so long as the total reductions is equal to the total reductions required by the formula in those States.

The following table is an estimate prepared by the Office of Technology Assessment of reductions in sulfur dioxide that will be required by 1995 in each of the 31 States under the allocation scheme in the bill. These estimates include projections of future growth in the utility industry in the region, emissions from which must be offset, but do no attempt to project future growth in emissions from industrial sources. The third column headed "initial Reduction" gives the emission reductions required to meet the bill's 8,000,000 ton reduction requirement, while the fourth column estimates reductions that will be required to offset emissions from utility growth. (Negative figures in the fourth column indicate estimates of emission reductions that are projected to take place because of decreased demand for electrical generating capacity or other factors unrelated to requirements of the bill.)

STATE EMISSION REDUCTIONS

State	1980 emissions	Initial reduction	Offset amount
Alabama	543.1	208.5	−5.0
Arkansas	26.5	0	46.4
Connecticut	32.0	0	0
Delaware	52.5	10.6	−0
District of Columbia	4.6	0	0
Florida	725.9	246.5	51.5
Georgia	736.7	352.0	46.8
Illinois	1,125.6	654.6	197.0
Indiana	1,539.6	1,008.3	70.3
Iowa	231.3	107.7	41.9
Kentucky	1,007.5	585.1	43.3
Louisiana	24.8	0	0
Maine	16.3	1.4	3.3
Maryland	223.2	77.1	56.7
Massachusetts	275.6	66.3	−40.8
Michigan	565.3	177.3	121.8
Minnesota	177.3	44.1	29.1
Mississippi	129.2	57.8	9.6
Missouri	1,140.5	774.8	25.6
New Hampshire	80.5	38.2	3.3
New Jersey	110.2	26.9	15.3
New York	480.3	160.9	−22.5
North Carolina	435.4	17.7	33.6
Ohio	2,171.6	1,346.8	25.5
Pennsylvania	1,466.1	653.5	−50.6
Rhode Island	5.2	0	0
South Carolina	213.1	63.7	57.2
Tennessee	933.7	552.8	−19.6
Vermont	.5	0	1.1
Virginia	163.7	6.4	5.1
West Virginia	944.2	469.1	61.8

STATE EMISSION REDUCTIONS—Continued

State	1980 emissions	Initial reduction	Offset amount
Wisconsin	485.7	292.4	48.8
Regional total	16,067.7	8,000.5	856.5

Within 3½ years after the date of enactment, that is, two years after an allocation scheme has been agreed to by the Governors or imposed by the formula in the Act, each State is to have adopted and submitted to EPA and to the Governors of other States in the region enforceable measures to achieve the required reductions. The Administrator will review and approve a State's submittal according to the State implementation plan review process in section 110(a)(3) as amended by this bill, if it provides for enforceable continuous emission reductions that will achieve the total reductions required of that State by January 1, 1995. Ordinarily, a submittal will have been acted on or deemed approved within a maximum of 6 months, unless controversy and objection leads EPA to invoke the requirements of section 186. In order to approve measures adopted by a State, the Administrator must find that the State has provided schedules for compliance for particular sources that specify and make enforceable any actions that, in order to achieve final compliance, are needed prior to the dates by which the sources are required to achieve compliance with the emission limitation.

In submitting a set of measures to EPA, a State must have ascertained from existing major stationary sources whether they will comply with emission limitations by conventional means, by innovative means, or by replacement by lower emitting new facilities. The measures submitted to the Administrator, in order to be approved, must require any major source that will comply with final emission limits through use of conventional techniques, that is, techniques that have already been adopted and are in use by similar facilities, to come into compliance no later than January 1, 1993. A major stationary source may decide to change its method of compliance, but it must do so in time to meet the appropriate deadline. That is, if a source decides to employ innovative rather than conventional controls, it must request approval of that change in time to meet the January 1, 1995, deadline for final compliance.

The Committee has addressed elsewhere in the bill as well as in this part, the importance of monitoring by sources and by control agencies to insure continuous compliance with control requirements. The term "monitoring" includes a variety of techniques and strategies that enable control agencies to keep track of a source's emissions. Measures submitted by a State to EPA for approval under this part must include adequate and credible provisions for determining continuous compliance with its requirements.

The bill's provisions urge States and EPA, wherever practicable, to provide for reductions in emissions prior to the final deadlines in law.

Some major stationary sources do not currently comply with emission limitations for sulfur dioxide that are applicable to them under existing law. Others have recently had State implementation plans revised to allow more emission of sulfur dioxide. Subsection (b)(4) requires compliance by such sources by December 31, 1985, with emissions limits applicable to them in State implementation plans in effect on January 1, 1981. Failure to comply with those limits will result in the imposition of a 1.2 pounds per million Btu average limit on all sources owned by the owner of a noncomplying source and a noncompliance penalty applicable to the entire period the source did not comply with the limit in effect on January 1, 1981. It is fair and prudent to achieve early reductions in sulfur dioxide emissions by adding penalties for failures to comply with existing law and to reverse recent relaxations that, in some instances simply made legal a source's violation of an earlier limitation.

Reduction requirements if States fail to act.—Section 186 imposes a sulfur dioxide emission limit on utilities in the event a State fails to adopt approvable measures that comply with requirements of this part. The limit is 1.2 pounds per million Btu on a 30-day average. This provision is an ultimate strategy that the Committee hopes will not have to take effect. It is included to assure that within 4½ years from the date of enactment all of the largest emitters of sulfur dioxide in the region will have planned for and be moving toward meeting emissions limitations that will bring about the reductions in sulfur dioxide emissions required by the Act.

Additional emission reduction methods.—Several methods of achieving or maintaining the new part's emissions limits are specifically mentioned in section 187. These are in addition to the continuous methods of pollution control currently allowed under the Clean Air Act and the list is illustrative, not restrictive. The key to the acceptability of any alternative is that the degree of emission limitation it provides must be verifiable and enforceable by the Federal government, by States, and by citizens. Such other methods of pollution reduction as the use of wood residue and the combustion of biomass fuels inherently low in pollution could also be employed.

> The methods specifically cited in the bill are the following:
>
> (1) least emissions dispatch to meet electric generating demand at existing generating capacity;
>
> (2) retirement of major stationary sources at an earlier date than provided in schedules on file with the Federal Energy Regulatory Commission, the Internal Revenue Service, or State utility regulatory agencies;
>
> (3) investments in energy conservation where reductions in emissions can be identified with such investments;
>
> (4) trading of emission reduction requirements and actual reductions on a State or regional basis, for which States and the Administrator are authorized to establish emission reduction banks or brokerage institutions to facilitate such trading; and
>
> (5) precombustion cleaning of fuels.

Estimates of control costs.—All estimates of control costs required by the bill are necessarily speculative. Costs will ultimately depend on decisions made by State governments and business executives several years hence. While the available models attempt to estimate for future years factors such as rail rates, the availability and cost of capital, the cost of different types of coal, and other variables, their assumptions often differ, and any one may or may not prove to be correct. Despite their inherent problems in predicting future conditions, these estimates are the only available means for estimating the probable costs of achieving the reductions mandated by the bill.

The majority of available estimates were made on the basis of the control program contained in S. 1706, which would have mandated a 10 million ton reduction over a 10-year period, rather than the 8 million ton, 12-year program adopted by the Committee. However, the Environmental Protection Agency and the Office of Technology Assessment have each conducted analyses of the provisions in the bill that is being reported. The EPA study estimates that the annualized costs of the bill, beginning in 1995, would be as follows:

Increases in 1995 annualized costs

	Billions
SO_2 control provisions	$3.29
NO_x emission rate cap	1.36–2.22
Industrial emissions:	
Industrial sector	0.16–0.37
Utility sector	0.25–0.66

The increase in utility annualized costs due to the sulfur dioxide provisions contained in the EPA analysis is comparable to other analyses. The range of costs assigned to NO_x control, however, is more speculative. It assumes that the rate cap will preclude coal conversions, thus forcing utilities either to build new plants or continue burning oil. It also assumes there will be a relatively large number of facilities converting to coal. The EPA projections probably reflect the upper range of possible control costs.

The EPA study estimates of utility rate increases are given in the following table.

EPA estimates of percent change in electricity rates based on annualized costs in 1955

State:	*Projected increase in rates*
Maine/Vermont/New Hampshire	1.1
Massachusetts/Connecticut/Rhode Island	.7
New York	.7
Pennsylvania	3.0
New Jersey	.8
Maryland/Delaware/District of Columbia	2.2
Virginia	1.4
West Virginia	6.4
North and South Carolina	.9
Georgia	4.1
Florida	2.4
Ohio	7.8
Michigan	2.6
Indiana	6.4
Illinois	1.4
Wisconsin	5.5
Kentucky	5.2
Tennessee	2.5
Alabama	.9
Mississippi	2.9
Minnesota	-.2
Iowa	3.2
Missouri	6.3
Arkansas	1.6
Louisiana	0

An analysis by OTA of provisions in the bill estimated the 1995 annualized costs, including emission reductions to offset growth in the utility sector but not in the industrial sector, to be between $2.81 billion and $3.39 billion.

The following table presents the OTA estimates of the range of rate changes that would result from the bill.

OTA ESTIMATES OF PERCENT CHANGE IN ELECTRICITY RATES BASED ON ANNUALIZED COSTS IN 1995

State	Projected cost increase in rates	
	Low value	High value
Alabama	0.3	1.4
Arkansas	3.2	5.4
Connecticut	0	0
Delaware	0	4.5
District of Columbia	0	0
Florida	1.6	6.4
Georgia	5.3	8.5
Illinois	.6	6.2
Indiana	8.0	14.5
Iowa	1.8	8.5
Kentucky	2.3	5.8
Louisiana	0	0
Maine	.7	1.6
Maryland	.8	6.2
Massachusetts	.0	3.9
Michigan	1.1	4.8
Minnesota	1.1	4.6
Mississippi	3.4	15.8
Missouri	4.4	14.5
New Hampshire	.1	5.7
New Jersey	.1	3.9
New York	.7	2.8
North Carolina	.8	3.3
Ohio	3.7	7.3
Pennsylvania	1.0	2.8
Rhode Island	0	0
South Carolina	2.2	3.6
Tennessee	1.9	4.0
Vermont	0	.2
Virginia	0	5.7
West Virginia	5.9	11.8
Wisconsin	3.4	18.3
Regional totals	2.9	4.6

In addition to reviewing estimates of control costs from regional models, the Committee asked several utility companies in the region to estimate the cost of emission reductions they believed they would be required to achieve. Nine of the largest companies in the region representing a wide geographic range, were asked to submit specific analyses and explain the basis for their projections. Each company made assumptions about a number of variables, including the tonnage reduction to be required throughout the region, the mix of strategies it would employ to achieve its required reductions, and the cost of each strategy. As an indication of the variability in assumptions underlying cost estimates and estimates of rate increases, the Tennessee Valley Authority estimated the cost of scrubbing flue gas as $155 per kilowatt hour, while

American Electric Power estimated these costs to be between $307 and $473.

A summary of the responses and assumptions submitted by each company follows.

Tennessee Valley Authority (TVA)

TVA assumed that the regionwide reduction requirement would be 10 million tons of SO_2 and that it would reduce its portion of the requirement through retrofitting most of it plants with scrubbers. Controlling emissions in this manner was projected to cause an increase of 7 percent in consumer rates.

American Electric Power (AEP)

AEP assumed a total regionwide reduction requirement of 13.1 million tons of SO_2. In achieving its portion of the reduction requirement, AEP reported it would retrofit scrubbers on 10 plants, which generate 12,775 MW; switch fuels at three plants (2800 MW); and prematurely retire four plants (1075 MW). An average rate increase of 63.3 percent was projected across the AEP system.

Southern Company Services (SCS)

Assuming a 10 million ton reduction requirement, SCS reported it would reduce its emissions by retrofitting 50 percent of its coal-fired powerplants with scrubbers, with a resulting 20–30 percent increase in residential rates.

Indianapolis Power and Light (IP&L)

IP&L assumed a 10 million ton reduction requirement and said it would achieve its reductions by retrofitting two units (895 MW) with scrubbers, and switch 15 boilers (758 MW) to a lower sulfur coal. This was projected to result in a 48 percent rate increase to consumers.

Ohio Edison (OHIO)

OHIO assumed a 10 million ton reduction. OHIO would ahieve its portion of the requirement by retrofitting its older plants with scrubbers. OHIO would perfer to reduce emissions by using a low sulfur coal but believed this was not possible at present. As a result, OHIO projected a 40 percent increase in its electricity rates.

Union Electric (UE)

Union Electric specified a 10 million ton reduction. Using old data, UE concluded that two of its four coal-fired powerplants would be retrofitted with scrubbers and the other two would burn low sulfur coal. This would result in a 20 to 25 percent increase in rates. After its initial submission to the Committee, UE reported that these results were based on old data, and that UE would probably switch its system to use of 100 percent western, low sulfur coal to reduce its emissions. Using more recent data, UE believed the costs and projected rate increases would probably be higher than originally estimated.

Public Service Indiana (PSI)

PSI assumed a reduction scenario of between 8 and 10 million tons. PSI would meet its portion of the requirement by retrofitting its baseload plants with scrubbers (5272 MW total) and converting its peakload stations (240 MW total) to low sulfur coal. PSI projected a rate increase of 50 percent.

New England Electric System (NEES)

NEES assumes a 10 million ton reduction requirement, but did not suply projections on changes in electricity rates. In order to meet the reduction requirement, however NEES would use less coal and burn more low sulfur oil.

New York Power Pool (NYPP)

Most of the 30,000 MW in New York State are generated by oil-fired powerplants. In order to comply with a 10 million ton reduction requirement, NYPP would use lower sulfur oil. For the 1550 MW of coal-fired capacity, NYPP would retrofit the plants with scrubbers. NYPP did not supply projections of changes in electrical rates.

The Committee asked the Congressional Research Service of the Library of Congress to review and compare assumptions and estimates of these utilities. In submitting its report, the Library of Congress identified those assumptions which would critically affect the projected rate increase. In chart form, each utility analysis was rated according to the direction of its assumption:

A "3" was assigned to assumptions tending to maximize cost.

A "2" or "1" was assigned to assumptions of lesser impact.

This chart is reproduced in the following table. For purposes of comparison, ratings are included for assumptions used by the Office of Technology Assessment in estimating costs and rate increases throughout the region.

RELATIVE COMPARISON OF VARIOUS COST ESTIMATES—CONGRESSIONAL RESEARCH SERVICE

Factor influencing cost [1]	Utility									
	OTA	TVA	AEP	IPL	NEES	NYPP	PSI	OHIO	SCS	UE
1. Amount of SO_2/NO_x to be reduced	1	2	3	2	2	2	1	2	2	2
2. Method of allocating reductions	1–2	2	3	2	2	2	3	3	2	3
3. Reduction method chosen	1–2	3	3	2	3	3	3	3	3	1
4. Scrubber costs	1–3	1	3	2	(2)	3	2	3	1–3	2
5. Fuel switching costs	2	(3)	1	3	(3)	(3)	2	(2)	(2)	1
6. Accounting method	2	1	3	3	(2)	(2)	3	3	1	3
7. Replacement costs	1	2	3	3	1	2	2	1	1	1

[1] Scale for questions.
1. (1) under 10,000,000 tons, (2) 10,000,000 tons, (3) over 10,000,000 tons.
2. (1) least cost, (2) emissions celings, (3) percentage reduction.
3. (1) least cost, (2) significant fuel switching, (3) mostly FGD.
4. and 5. (1) under the CBO estimate, (2) approximately the CBO estimate, (3) significantly above the CBO estimate.
6. (1) levelized costs, (2) annualized, but not levelized costs, (3) first-year rate impact.
7. (1) no replacement capacity, (2) purchase power, (3) build new facility.

[2] Not applicable.

[3] Substitution of low-sulfur oil for higher-sulfur oil.

Coal market impacts.—Estimates of the effect of the bill on coal markets vary even more widely than estimates of costs. Assumptions of the extent to which coal-burning utilities will switch from higher to lower sulfur coal rather than install flue gas cleaning equipment are, of course, critical to estimating the magnitude of effects on coal markets. The degree to which these assumptions can differ was illustrated in statements submitted to the Committee by a major coal company and by individual utilities. The former based its estimates of the effects of reduction requirements on coal markets on the assumption that utilities almost universally would choose coal switching as their means of compliance. The utilities, as has been pointed out in the discussion of control costs, projected a heavy reliance on flue gas scrubbing to meet reduction requirements.

The Committee asked the Office of Technology Assessment to analyze the coal market impacts of an acid rain control program, recognizing the uncertainties inherent in any such analysis. The analysis was conducted prior to final Committee action and was thus based on a 10 million ton reduction rather than the provisions recommended by the Committee. The following table summarizes results of the analysis.

REGIONAL COAL MARKET EFFECTS OF ACID RAIN CONTROL

Region	10,000,000 ton sulfur dioxide emission reduction
Northern Appalachia (Maryland, northern West Virginia, Ohio, and Pennsylvania).	Under a 10,000,000-ton acid rain control program, production is projected to decrease by about 10 percent between 1979 and 1990. Employment is projected to be 15 percent (9,800 to 14,100 jobs) less than it would have been under the 1990 base case; projected employment changes from 1979 levels range from no change to a 30-percent (23,000 job) decrease. Direct income opportunities foregone range from $250,000,000 to $360,000,000; total income foregone ranges from $630,000,000 to $910,000,000. Available projections for the year 2000 suggest these declines may only be temporary.
Central Appalachia (eastern Kentucky, southern West Virginia, Tennessee, and Virginia).	Under a 10,000,000-ton acid rain control program, production is projected to increase 70 percent between 1979 and 1990. 1990 employment levels are projected to be about 15 percent (15,000 to 21,700 jobs) greater than they would have been in 1990 under current regulations, and 38 to 99 percent (33,200 to 86,500 jobs) greater than 1979 employment levels. Direct income opportunities created are projected to be $390,000,000 to $560,000,000; total income generated ranges from $1,030,000,000 to $1,490,000,000.
Midwest (Illinois, Indiana, and western Kentucky).	Under a 10,000,000-ton acid rain control program, production is projected to decrease 10 percent between 1979 and 1990. 1990 employment levels are projected to be 33 percent (10,500 to 15,200 jobs) below what they would have been in 1990 under current regulations, and 6 to 35 percent (1,900 to 11,300 jobs) less than 1979 employment. Direct income opportunities foregone are projected to range from $270,000,000 to $390,000,000; total income foregone ranges from $770,000,000 to $1,100,000,000. Projections for the year 2000 suggest these declines may be reversed in the period 1990 to 2000.
The Western United States	Under a 10,000,000-ton acid rain control program, production is projected to increase 158 percent between 1979 and 1990. 1990 employment is projected to be 13 percent (4,600 to 6,700 jobs) greater than what it would have been in 1990 in the absence of acid rain controls, and between 95 and 180 percent (19,100 to 36,300 jobs) greater than 1979 levels. Increases in direct income opportunities range from $120,000,000 to $170,000,0000; total income increases are projected to range from $510,000,000 to $740,000,000.

INTERSTATE POLLUTION (SEC. 121)

SUMMARY

This section amends section 110(a)(2)(E) of the Act to require State implementation plans to prohibit any group of sources, as well as any individual source, as provided in existing law, from emitting any air pollutant that will "interfere with" attainment and maintenance of a national ambient standard in any other State. Present law prohibits emissions that will "prevent" attainment or maintenance of a standard in another State. The amendment also adds a provision to section 110(a)(2)(E) that requires implementation plans to prohibit emissions that "may reasonably be anticipated to cause or contribute to an adverse effect on public health or welfare or the environment" in another State or foreign country.

This section of the bill also amends section 123 of the Act to permit the Administrator to prohibit increases in the height of smokestacks and to require the Administrator within one year to review emission limits for all major stationary sources that have come into existence or raised stack heights since 1970 to determine if those sources are receiving inappropriate emission reduction credit based on stack heights. If inappropriate credit has been given, the emission limitations must be corrected within six months.

Section 126 of the Act is amended to make emission of an air pollutant that adversely affects the public health or welfare of another State a violation of this section of the Act and to require the installation of reasonably available control technology on any existing major source within two years after a finding that it is committing such a violation.

Section 304 of the Act is amended to provide that citizen suits may be instituted to enforce provisions of section 126 of the Act.

DISCUSSION

The control of interstate pollution and the creation of a uniform and predictable system of pollution regulation has been a major goal of the Clean Air Act. The 1970 Act required State implementation plans to take into account the impact of sources on air quality in other States. The 1977 Amendments added section 126 to the law for the express purpose of dealing with interstate pollution. Section 126 has proven inadequate.

To correct the deficiencies of section 126 and other portions of the Act, the Committee adopted several changes. They are as follows:

First, the Administrator of the Environmental Protection Agency is required to review the emission limits for all major sources which have come into existence since 1970 or which have raised the stack height since 1970, to determine whether the emission limits for such sources are inappropriately based on modeling credit for stack height which is greater than the height dictated by good engineering practice. If the emission limits are inappropriately based, the Administrator must require the State to correct the emission limit to conform to the requirements of law.

The following list of the 274 powerplants in the United States with stack heights of 450 feet or higher gives an idea of the number and distribution of tall stacks:

Illinois	22	Massachusetts	3
Pennsylvania	21	Virginia	3
Indiana	19	Connecticut	2
Ohio	19	Arkansas	2
Alabama	15	Mississippi	2
Michigan	14	Montana	2
New York	14	Oklahoma	2
Georgia	13	Washington	2
West Virginia	12	Delaware	1
Kentucky	11	Iowa	1
California	9	Nebraska	1
Florida	9	Nevada	1
Texas	9	New Jersey	1
Wisconsin	9	North Dakota	1
Missouri	8	Hawaii	0
Minnesota	7	Louisiana	0
Tennessee	7	Maine	0
Wyoming	7	New Hampshire	0
Arizona	5	New Mexico	0
North Carolina	5	Puerto Rico	0
Maryland	4	Rhode Island	0
Utah	4	South Carolina	0
Colorado	3	Vermont	0
Kansas	3		

Second, a new subsection is added to section 126 to expressly state that emission of an air pollutant which, by itself or in combination, reaction, or transformation, adversely affects the public health or welfare of another State is a violation of section 126.

Third, sections 110(a)(2)(E) and 126 are amended to assure that petitions may be based on pollution which interferes with attainment or maintenance of the ambient air quality standards, thus eliminating the current requirement that such pollution actually prevent attainment or maintenance.

Fourth, sections 110(a)(2)(E) and 126 are amended to assure that petitions may be based on pollution originating from sources in the aggregate, including regional sources, not just identifiable single sources.

Fifth, major existing sources in violation of new subsection (d) of section 126 are required to install reasonably available control technology within two years.

Sixth, violations of the interstate pollution provisions are made subject to the Act's citizen suit provisions.

In considering petitions under sections 110(a)(2)(E) or 126 the Administrator may not require the petitioner to rely solely on modeling or other methodologies previously approved by the Administrator for estimating interestate air pollution, but shall also consider—

(1) the total loadings of any pollutant emitted from sources in the affected air quality control regions in each State subject to the petition;

(2) reasonable estimates of the contribution to air quality problems in the petitioning State that come from sources outside the State;

(3) the prevailing winds and other meteorological factors affecting the transport of any pollutant between the affected air quality control regions;

(4) the comparative economic impact, including, but not limited to, the impact on jobs and the potential for economic growth in affected air quality control regions in each State subject to the petition, of making such a finding or denying such petition, and;

(5) such other factors as the Administrator may establish by regulation.

TITLE II

HEAVY DUTY VEHICLE EMISSIONS (SEC. 201)

SUMMARY

This section amends section 202(a)(3) (A) and (B) of the Act to:

(1) provide that standards for heavy duty vehicles take effect 4 model years after promulgation and remain in effect for at least 4 model years;

(2) require that the Administrator, in setting an emission standard, take into account the effect of attaining that standard on the attainment of other existing or proposed emission standards;

(3) authorize the Administrator to set standards for emissions of oxides of nitrogen (NO_x) and particulate matter that take effect in the same year; and

(4) prohibit the Administrator from relaxing standards for emissions of hydrocarbons and carbon monoxide from the 90 percent reduction level required by the Act.

The Committee amendment also amends section 202(d) of existing law to define the useful life of heavy duty vehicles as half their actual life.

DISCUSSION

The Committee made a number of changes in provisions of the Act dealing with the regulation of emissions from heavy duty vehicles or engines. These amendments are intended to bring about effective regulation of emissions at the earliest possible date, taking into account the state of heavy duty emissions control technology.

For example, recent studies have suggested the need for a more flexible approach to the control of heavy duty NO_x emissions. The 1977 amendments to the Act required heavy duty vehicles by 1986 to reduce NO_x emissions by 75 percent from the level of emissions from uncontrolled heavy duty gasoline engines. (Basing the standard on uncontrolled gasoline engines, which emit less NO_x than diesel engines, means that diesels must reduce emissions by 83 to 92 percent from their uncontrolled levels.) A 1981 National Academy of Sciences study evaluated the feasibility of requiring heavy duty diesel engines to meet the statutory 1986 NO_x standard. While the Academy found that heavy duty diesel engines had achieved reductions from uncontrolled diesel levels of from 20 to 75 percent (depending in part on engine families), it found that there are no data that show the technical feasibility of the heavy duty diesel engine's meeting a NO_x emission standard based on a 75 percent reduction from uncontrolled heavy duty gasoline engines by 1986.

Lead time and stability of standards.—Current law does not specify any period as necessary lead time for manufacturers to comply with a heavy duty particulate matter standard and does not require that such a standard remain in effect for any specified period. Section 202(a)(3)(A)(iii) states only that "such standards shall be promulgated and shall take effect as expeditiously as practicable taking into account the period necessary for compliance." Section 202(a)(3)(B) of the Act, under which a temporary heavy duty NO_x standard can be set, provides a 4-year lead time for compliance with the temporary standard and a three-year period during which the standard would remain in effect. Revisions to the temporary standards can only be made during certain limited time periods.

The Committee amendments to these sections specify that the lead time for complying with particulates matter standards will be the same as that for the temporary heavy duty NO_x standard, that is, four years. This will give manufacturers time to make and test those changes in the design, development and production of engines needed to meet the new standards. The amendment also establishes a four-year period of stability during which the particulate matter standard would remain unchanged and changes the three-year period of stability for a revised NO_x standard to a 4 year period.

The amendments also eliminate the narrow time period during which the Administrator can revise the heavy duty NO_x standard, thus allowing a revision to be made when justified under the specified criteria after notice and opportunity for public hearing.

The Committee has further amended section 202(a)(3)(A)(iii) to authorize the Administrator to make appropriate arrangements with the National Academy of Sciences to study and report on the technical feasibility of any proposed heavy duty particulate matter standard. Such authority would provide EPA with the ability to supplement its own resources to insure that it has adequate information from which to reliably project the level of control for which technology will be available.

Consideration of the level of other pollutants.—Under existing standard-setting provisions, the impact a standard for one pollutant has on the manufacturer's ability to control the level of other pollutants is not explicitly required to be considered by the Administator. There are, however, significant tradeoffs among the pollutants in the control of heavy duty emissions, especially emissions from heavy duty diesels. For example, the recent report by the National Research Council of the National Academy of Sciences concerning the control of NO_x from heavy duty engines concluded that any current or foreseeable heavy duty diesel control technology used to reduce NO_x will result in significant increases in both particulate matter any hydrocarbons. There is thus a need for EPA to set standards that take into consideration such tradeoffs.

The Committee added a new clause (vi) to section 202(a)(3)(A) to address these concerns. This amendment requires the Administrator, when determining whether a standard should be revised, when setting a revised or changed standard, and when promulgating a new standard, to consider the effect of the proposed standard on the manufacturer's ability to achieve existing and proposed standards for other pollutants. This will insure that the control of one pollutant does not result in an unreasonable increase in the level of other pollutants.

As previously noted, more stringent control of NO_x can have a pronounced impact on the level of particulate matter from heavy duty diesel engines. It appeared to the Committee that it would be desirable for the Administrator to set these two standards simultaneously. Thus, this amendment also explicitly gives EPA the authority to prescribe NO_x and particulate standards for heavy duty engines which take effect in the same model year.

The Committee amendment prohibits the Administrator from changing heavy duty vehicle emission standards for hydrocarbons and carbon monoxide. The Administrator retains the authority to change other standards based on pollutant-specific studies the Agency is directed to conduct or any other information available to him, and is required to consider studies from the Health Effects Institute. The Health Effects Institute, funded by both the Federal government and the motor vehicle industry, is an independent nonprofit corporation the purpose of which is to conduct and evaluate research and testing relating to the health effects of emissions from motor vehicles, and to provide the results of such research to the public and interested government agencies.

Useful life.—Current law provides that the useful life for heavy duty engines or vehicles will be the same as the statutory definition of useful life for light duty vehicles unless the Administrator determines that a period of use of greater duration or mileage is appropriate. The 5-year or 50,000-mile period defined in the statute as the useful life for light duty vehicles was recognized to represent approximately one half the actual period of use of those vehicles.

EPA has defined useful life for 1984 and later model year heavy duty vehicles or engines as the full (not half) actual period of use of an engine or engine family, measured by the average actual period of use of the engines in a given engine family or by certain other parameters of individual engines. While the use of averages could be valuable in determining a period representing half the period of actual use, employing an average as the measure of full periods of use guarantees that a significant number of engines or vehicles will fail to meet emissions requirements at some point before reaching the specified average—and thus be subject to recall or warranty claims—even though they did meet requirements throughout the period of use for which they were designed. EPA's current definition of useful life could also result in claims that any engine problem (including normal engine wear) increases emissions over standards and thus is covered by an emissions warranty. This could result in a *de facto* extension of the commerical warranty to the actual life of the engine.

The Committee amendment defines useful life as the period of use which, for the affected class or category, is the greater of (a) one-half of: (1) the average time or use between first use and engine retirement or rebuild; or (2) any other measure of actual life as determined by the Administrator; or (b) the duration or mileage of the published commercial warranty. This definition establishes the useful life of a heavy duty vehicle or engine at its half-life for emissions certification, recall and warranty purposes, unless the commercial warranty exceeds the half-life. The Committee believes that this half-life approach is consistent with the treatment of useful life adopted by Congress in 1970 for light duty vehicles and eliminates the uncertainty and costs associated with EPA's present definition.

Hydrocarbon and carbon monoxide standards.—The Committee bill precludes EPA from relaxing the 1984 standards for emissions of hydrocarbon (HC) and carbon monoxide (CO) from heavy duty vehicles.

The 1977 amendments established standards requiring model year 1983 and later heavy trucks to reduce their HC and CO emissions by 90 percent (compared to uncontrolled, or pre-1970, vehicles). EPA was given authority to change or revise those standards under certain circumstances. In January, 1980, EPA, after completing the rulemaking process, issued regulations requiring compliance with the statutory standards. To give manufacturers adequate lead time to comply with the standards, EPA delayed compliance from model year 1983 until 1984. In January, 1982, EPA issued a notice of proposed rulemaking, indicating its intent to relax the heavy duty vehicle standards. The Agency has not yet taken final action on the proposed rule.

The Committee's bill would require implementation of the 1984 HC and CO standards already promulgated by removing the Agency's authority to revise the statutory standards. The Committee took this action after carefully reviewing both the record of the rulemaking which led to establishment of the 1984 standards and the explanation for the currently proposed relaxation of those standards. After that review, the Committee concluded that the assumptions which led Congress to enact the statutory heavy duty vehicle standards in 1977 have been confirmed by subsequent analysis. Those assmuptions which have been shown to be valid are (1) that the 90 percent control of HC and CO emissions from heavy duty vehicles are necessary to limit the substantial, and growing contribution of heavy truck emissions to urban ozone and CO pollution levels; (2) that the statutory standards are technologically feasible; and (3) the standards are exceptionally cost-effective.

The Environmental Protection Agency in 1980 calculated the heavy truck standards would reduce average urban ozone levels in 1990 by two percent, and carbon monoxide levels by seven percent. This difference is significant in determining whether some cities attain the national ambient air quality standards. The National Commission on Air Quality found that

> [i]f the more stringent 1984 model-year carbon monoxide standards for light and heavy trucks were repealed, some additional areas would exceed the carbon monoxide air quality standards regardless of whether they implement inspection and maintenance programs.

Before promulgating the 1984 heavy duty vehicle standards, EPA concluded that it is technologically feasible to achieve them by adapting catalytic converters and other emission control systems being used to comply with the relatively more stringent automobile emission standards. EPA reiterated its earlier conclusion when proposing to relax the standards, stating "EPA's belief in the technological feasibility of the 1984 HDE (heavy duty engine) emission requirements and statutory HC and CO emission standards remains unchanged." The National Commission on Air Quality also confirmed that compliance with the heavy vehicle standards is technologically feasible.

EPA's original analysis also showed that compliance with the 1984 standards would be highly cost-effective, costing less per ton of CO removed ($10) than either the automobile standard for CO ($41) or light truck standard ($21). Even more telling is a comparison with the cost-effectiveness of the additional control measures, primarily traffic management, being implemented by State and local governments in the many areas still exceeding the CO air quality standard. States which are now revising their implementation plans to comply with the 1987 deadline for attaining the CO standard are adopting control measures costing $1000 and more per ton—100 times as expensive as the 1984 standards.

On the other hand, the primary argument advanced by the Administration and current EPA officials to relax the heavy duty vehicles standards is to avoid imposing additional costs on the manufacturers of heavy duty vehicles. Before promulgating the 1984 standards, EPA conducted a thorough review of their economic impacts, including a "careful, detailed analysis of the costs for each individual company."

EPA's analysis showed the costs of compliance with the standards would cause a purchase price increase of $394, or about three percent of the total purchase price, for gasoline-powered heavy duty vehicles, and about $195, or about one-half of one percent of the total purchase price, for diesel heavy duty vehicles.

Although the 1984 standards will impose additional costs on truck manufacturers, the Committee believes, based on EPA calculations, the extra costs can be rapidly recovered through increased purchase prices without causing significant adverse effects on the market for heavy trucks. The Committee also notes that much of the original capital investment for compliance with the 1984 standard will be required of the suppliers of emission control equipment, who are not experiencing the financial difficulties now experienced by truck manufacturers.

The Agency's economic impact analysis also showed that the costs of compliance with the 1984 standards will be more than offset by savings attributable to the standards. The greatest savings will be through improvements in the fuel efficiency of the gasoline-powered vehicles. The Agency pointed out that "savings in fuel costs that will be seen by the operator of a gasoline engine are projected to amount to at least $788 over the life of the engine, based on the low end of the anticipated range of fuel economy improvements." These savings will total $1.26 billion nationwide, or $313 million more than the costs of compliance with the standards.

EMISSIONS FROM LIGHT DUTY VEHICLES AND LIGHT DUTY TRUCKS (SECS. 202 AND 203)

SUMMARY

Section 202 amends section 202(b) of the Act to provide a 1.5 grams per mile oxides of nitrogen (NO_x) emission standard for model years 1983 and 1984 for diesel-powered light duty vehicles. Waivers up to 1.5 grams per mile of oxides of nitrogen may be granted for model years 1985 and 1986 for particular engine families if a waiver will permit the engine family to meet the statutory emission standard for particulates. Section 202 of the bill also sets an emission standard for diesel particulate emissions of 0.20 gram per mile for light duty vehicles while section 203 of the bill establishes a 0.26 gram per mile particulate standard for diesel-powered light duty trucks beginning with the 1986 model year. Both sections provide for a waiver up to 0.6 gram per mile of particulate matter for a class or category of vehicles for model years 1986 and 1987 under specified conditions.

Section 203 also establishes hydrocarbon, carbon monoxide and oxides of nitrogen emission standards for model year 1983 and later light duty trucks. The hydrocarbon standards will be 1.7 grams per mile in 1983 and 0.8 gram per mile beginning in 1984. The carbon monoxide standards will be 18 grams per mile in 1983 and 10 grams per mile in 1984 and later years. The nitrogen oxide standards will be 2.3 grams per mile for model years 1983 and 1984, 1.2 grams per mile for 1985 and later light duty trucks with gross vehicle weights of 6,000 pounds or less, and 1.7 grams per mile for 1985 and later light trucks with gross vehicle weights over 6,000 pounds. The nitrogen oxide standard may be waived for 1986 and 1987 light trucks if EPA determines that waiving the nitrogen oxides standard is necessary to avoid waiving the particulate standard.

DISCUSSION

Light duty vehicle NO_x emissions.—The Clean Air Act Amendments of 1977 required light duty vehicles to meet a 1.0 gram per mile emission standard for NO_x beginning in model year 1981, but allowed for a waiver of the standard up to 1.5 grams per mile for diesel-powered light duty vehicles for model years 1981 through 1984. The Committee amendment deletes the requirement that diesel manufacturers must seek waivers on an engine family basis and establishes a standard of 1.5 grams per mile for model years 1983 and 1984. This change will save EPA and the manufacturers of diesel automobiles the time and expense which otherwise would be required to go through the administrative process of applying for, considering, and granting the waivers.

Diesel emissions.—The number of diesel-powered vehicles on the road is increasing every year. The Environmental Protection Agency has estimated that between 15 and 25 percent of all new light duty vehicles and trucks sold by the end of the decade will be powered by diesel engines. While diesel engines emit less hydrocarbons and carbon monoxide than gasoline engines, they produce more oxides of nitrogen and from 30 to 70 times more particulate matter. The higher levels of particulate matter have been of special concern because of their possible adverse effects on human health as well as their effect on visibility and on soot and odor levels.

In its 1981 report "Diesel Cars: Benefits, Risks, and Public Policy" the National Academy of Sciences noted that extracts from automobile exhaust particles contain carcinogenic materials. Whether diesel exhaust, itself, is carcinogenic is not yet known. The NAS study also states,

> The acute and chronic inhalation of diesel exhaust produces, as expected, the accumulation in the deep lung of carbonaceous particulates, as well as potentially hazardous compounds adsorbed on them. . . . The possible long-term consequences of such accumulation with regard to its potential for causing chronic pulmonary disease is a key issue in the evaluation of diesel exhaust inhalation hazards.

With respect to visibility the NAS reports that when the proportion of diesels in the entire fleet reaches 25 percent,

> the inhabitants of Los Angeles may experience as much as a 20 percent reduction in visibility, and in Denver a 50 percent decrease. The severest loss in visibility from a large increase in diesel cars is likely to occur in the "street canyons" of urban centers such as New York City.

In March 1980, EPA promulgated particulate emissions standards for diesel-fueled light duty vehicles and light duty trucks. These regulations contained a 0.60 gram per mile standard for particulates for both light duty vehicles and light duty trucks, for model years 1982 through 1984. Beginning in model year 1985, the regulations require light duty vehicles to meet a 0.20 gram per mile standard, and light duty trucks, a 0.26 gram per mile standard for particulates.

The Committee amendment incorporates into the Act the 0.2 gram per mile standard for light duty vehicles and the 0.26 gram per mile standard for light duty trucks but requires compliance with those standards beginning in model year 1986, rather than 1985. Testimony before the Committee was convincing that necessary control technology will be available by model year 1986 and in some cases, sooner. Nothing in this amendment is intended to preclude the Administrator from retaining the 1985 model year requirement for any families of light duty diesels for which the 1985 date is feasible.

The Committee amendment provides for a limited waiver of the particulate matter standard up to 0.6 gram per mile for model years 1986 and 1987. The Administrator may approve a waiver for a class or category of vehicles or engines if the manufacturer can establish that effective means of meeting the 0.2 gram per mile or 0.26 gram per mile standard have not been available for a sufficient time to permit compliance without excessive costs or fuel penalties and if the Administrator determines the waiver will not endanger public health.

The waiver is intended to be a narrow one. Information presented during hearings persuaded the Committee that in most, if not all, instances technology—either in the form of modifications of engine design or treatment of the exhaust stream—will be available by 1986 if manufacturers make good faith efforts to perfect systems already far along in the development process. The waiver should be granted only in those few instances where, despite all good faith efforts, compliance with the standard by a particular class or category of vehicles or engines either cannot be achieved using available control techniques or would result in extreme cost increases or fuel penalties.

Some (but not all) methods for controlling emissions of particulate matter have the effect of increasing emissions of oxides of nitrogen. Because there is a potentially higher health risk from particulates than from emissions of NO_x at low levels of exposure, the Committee in section 202 of the bill has provided for a 2-year waiver for model years 1986 and 1987 of the 1.0 gram per mile standard for NO_x up to a 1.5 grams per mile level if an engine family of light duty vehicles cannot otherwise met the 0.2 gram per mile standard for particulate matter and if the waiver for NO_x will permit the engine family to meet the 0.2 gram per mile standard for particulate matter during that two-year period. It is the Committee's firm belief that by model year 1988, technology for meeting both the statutory particulate and NO_x standards will be available for all classes and categories of vehicles and engines.

Hydrocarbon and carbon monoxide standards for light trucks.—Section 203, in addition to establishing particulate emission standards for light duty trucks, also establishes the first explicit statutory provisions for control of emissions of hydrocarbons, carbon monoxide and nitrogen oxides from this class of vehicles which includes such vehicles as pick-up trucks and vans. The bill thereby ends the current inconsistency between the Act, which now includes only two classifications of motor vehicles (light duty vehicles and heavy duty vehicles), and EPA's regulations, which include the light duty truck classification. (For an explanation of the different classifications, see the discussion of section 209.)

The light truck emission standards for hydrocarbons and carbon monoxide adopted by the Committee are given below:

LIGHT DUTY TRUCK HYDROCARBON AND CARBON MONOXIDE STANDARDS

[Grams per mile]

Model year	Hydrocarbons	Carbon monoxide
1983	1.7	18
1984 and later	0.8	10

These standards are identical to those already adopted by EPA. The 1984 standards represent approximately a 90 percent reduction from the emissions of uncontrolled (1967 or earlier) light trucks. In its rulemaking to set those standards, EPA determined they will reduce the lifetime hydrocarbon emissions from an average light truck by 76 percent and carbon monoxide emissions by 82 percent compared to a hypothetical continuation of the 1983 standards. EPA calculated that those emission reductions will lead to an average reduction in urban ozone levels by one to two percent by the late 1990's, and to an average reduction in carbon monoxide levels by three to four percent. EPA determined the 1984 standards can be met by using largely the same basic control technology already being used on automobiles, at manufacturing costs which will translate into an average $95 increase in vehicle purchase price, without any decrease in vehicle fuel efficiency.

Nitrogen oxide standards.—The light truck emission standards for NO_x adopted by the Committee depend on the size of the vehicle. The standards are as follows:

LIGHT DUTY TRUCK NITROGEN OXIDE STANDARDS

[Grams per mile]

Model year	Gross vehicle weight	
	6,000 pounds or less	Over 6,000 pounds
1983–84	2.3	2.3
1985 and later	1.2	1.7

The 1983–84 standards are identical to those already adopted by EPA. The Agency has not established new NO_x standards for 1985 and later light trucks, although it published in 1981 an advance notice of proposed rulemaking seeking comment on a possible standard of 1.2 grams per mile, to take effect in model year 1985. That standard was chosen by EPA to represent emission control "approximately equivalent" to the 1.0 gram per mile NO_x standard for automobiles, so the same emission control systems used on automobiles could be used to comply with the 1.2 grams per mile light truck standard. Because EPA has not yet proceeded with enough of the rulemaking process to confirm this tentative conclusion, the Committee exercised caution in setting the 1985 NO_x standard. Only those light trucks with gross vehicle weights of 6,000 pounds or less will be subject to the 1.2 grams per mile standard. Heavier vehicles (representing approximately 36 percent of light truck sales) will be subject to a 1.7 grams per mile standard.

The additional NO_x control represented by the Committee's 1985 light truck standards is important to protect both public health and the environment.

The analysis in EPA's advance notice suggested that adoption of the 1.2 grams per mile standard would reduce lifetime emissions of NO_x from a light truck by about 59 percent. This reduction can help avoid significant adverse effects of NO_x emissions. As the Agency noted in its 1981 notice

> . . . elevated levels of NO_2 in the air have been correlated with both long-term and short-term harm to the respiratory system. In addition to these health effects, NO_2 damages some materials and impairs visibility with a brownish haze. Further, NO_x emissions have been implicated in contributing to the formation of "acid rain," which is capable of eliminating life from lakes and streams, leaching nutrients from the soil, and causing damage to crops and such materials as steel, paint and concrete.

EPA noted further that "NO_2 in the atmosphere also acts as a precursor to ozone formation."

The Environmental Protection Agency's analysis included tentative conclusions that the 1.2 grams per mile standard would increase the average purchase price of light trucks by $153 for gasoline-powered vehicles and $47 for diesels. EPA found these costs to be "cost-effective compared to other NO_x control regulations." The costs of the Committee's standards will be lower, because of the less strict standard for heavier trucks.

High Altitude Motor Vehicle Emissions (Sec. 204)

SUMMARY

Section 204 of the bill establishes new provisions in sections 202, 206, 207, 205, and 215, and 313 of the Act regarding control of emissions from motor vehicles in high altitude areas.

The amendments delete the current requirement of section 206(f) that all model year 1984 and later light duty vehicles comply with the national emission standards regardless of the altitude at which they are sold.

EPA is required to establish separate low altitude and high altitude emission standards for model year 1984 and later light duty vehicles and lighty duty trucks. The high altitude standards for emissions of oxides of nitrogen from all such vehicles, and for emissions of carbon monoxide from 1984 and later light duty vehicles and from 1985 and later light duty trucks, shall be equal to the corresponding low altitude standards. The high altitude emission standards for all other pollutants shall require a percentage reduction at least equal to the percentage reduction which the corresponding low altitude standards require at low altitude.

Certificates of conformity may be issued for model year 1984 and later light duty vehicles and light duty trucks if (1) the vehicles comply under low altitude conditions with the low altitude standards, and are capable by design, adjustments, or modifications of complying under high altitude conditions with the high altitude standards; (2) the vehicles comply under low altitude conditions with the low altitude standards are granted exemptions from the high altitude standards; or (3) the vehicles comply under high altitude conditions with the high altitude standards and the manufacturer demonstrates that virtually all such vehicles are intended for principal use in designated high altitude areas.

Each manufacturer may receive exemptions from the high altitude standards for some models of vehicles, so long as the number of vehicles in such model and which are sold for principal use in designated high altitude areas do not represent more than 15 percent of the manufacturer's total combined sales of light duty vehicles and light duty trucks intended for principal use in designated high altitude areas.

EPA is required to prepare a report to Congress on the effect of the high altitude requirements on sales in high altitude areas, if requested to do so by a national association of motor vehicle dealers.

DISCUSSION

The current law requires all 1984 and later light duty vehicles to meet the natinonal emission standards regardless of the altitude at which they are sold. This "national car" requirement was enacted in 1977 in the expectation that emission control technology in use by 1984 could be modified at minimal expense to automatically compensate for changes in altitude. But this has not turned out to be the case. EPA has calculated the current high altitude requirement would add $125 to the purchase price of every automobile sold in the Nation, for a total national cost of $4.1 to $4.7 billion during the 5-year period 1984–89.

Rather than imposing this costly and burdensome requirement on the Nation's entire automobile fleet, the Committee's proposal would substitute a more flexible approach geared to the air quality needs of designated high altitude areas. (As explained in the discussion of section 209, which defines "designated high altitude areas," these are high altitude areas which in whole or in part were in nonattainment during calendar year 1981 for carbon monoxide and photochemical oxidants. The designated high altitude areas are in Colorado, Nevada, New Mexico, and Utah.)

The Committee's proposal which is patterned in large part after the high altitude rules adopted by the Environmental Protection Agency for 1982 and 1983 model year vehicles, contains four elements.

The first, involving standards, would require EPA to establish high altitude standards for 1984 and later model year passenger cars. For the first time, it also would require such standards for 1984 and later model year light duty trucks. These standards would apply to those automobiles and light trucks intended for principal use in designated high altitude areas.

The high altitude standards for oxides of nitrogen would be the same as those established for low altitude, as would the high altitude carbon monoxide standards for 1984 and later automobiles and 1985 and later light trucks.

Because the Committee provisions retain the current requirement that cars sold in designated high altitude areas meet the national carbon monoxide emission standard and add a new requirement that light trucks sold in such area meet the national carbon monoxide standard, air quality in high altitude areas will improve more rapidly than under the current law.

At the same time, by restricting the requirement for high altitude compliance to the approximately three percent of motor vehicles which are intended for principal use in designated high altitude areas, the Committee provisions will save the nation substantial expenditures. EPA calculations suggest the costs of complying with the high altitude requirements will be about $22 for each automobile and $13 for each light truck. The total national costs would be about $22 to $25 million during 1984–89, about one-half of one percent of the current law.

The second element of the Committee's provisions involving compliance, would still require the manufacturers to certify their vehicles to low and high altitude standards. This could be accomplished, however, as under the current 1982–83 EPA rules, either by initially designing the vehicle to do so when it leaves the factory, or by making adjustments or modifications to it prior to its sale or delivery to an ultimate purchaser in a designated high altitude area. The adjustments or modifications permitted by the rules must be approved by EPA and be capable of being performed by the manufacturer's dealers.

The use of adjustments or modifications to comply with the standards is an interchangeable two car strategy. The same basic model certified at sea level would be certified to the high altitude standards, but different engine adjustments and a different axle, for example, might be used on the high altitude version. A major advantage of the two car strategy is that it permits the manufacturers to optimize the emissions control, performance and fuel economy for vehicles intended for use in low or high altitude areas. The interchangeable two car strategy makes possible the sale of a wider range of models, at both low and high altitudes, than if all versions of the model, under a national or one car strategy, had to be certified to both low and high altitude standards.

The third element involves exemptions from complying with the high altitude requirements. The Committee recognizes that it is either technologically difficult or economically impracticable for the manufacturers to certify some vehicles at both low and high altitudes. Rather than precluding their availability everywhere in the country, the manufacturer may have them exempted from complying with the high altitude requirements. However, the number of individual vehicles in a model line which is exempted cannot make up more than 15 percent of the manufacturers total contained sales of automobiles and light trucks in designated high altitude areas.

The fourth element involves model availability in high altitude areas. While the Committee does not envision a repeat of the substantial reductions in model availability experienced under EPA's 1977 model year requirements, it is mindful of the hardships such reductions can have. Accordingly, it has added a new subsection (b) to section 313 that would require EPA to conduct a study of model availability if requested to do so by a national dealer association. The results of that study would be published in the *Federal Register* and forwarded to Congress.

SULFUR EMISSIONS (SEC. 205)

SUMMARY

This section requires the Administrator to issue regulations to control the sulfur content in diesel fuel, once diesel-powered vehicles make up 10 percent of the total annual sales of autos and light trucks. The sulfur content must be limited to no more than 0.05 percent by weight and must be lower if needed to protect the public health and welfare.

DISCUSSION

There is currently no limitation in Federal law on the sulfur content of diesel fuels. In 1980, 4.1 percent of the nation's auto and light duty truck fleet was powered by diesel engines; 8.34 percent of new cars sold were diesels. These percentages are increasing, and within a few years diesels are expected to constitute 10 percent or more of the light duty fleet. Diesels are widely used to power heavy duty vehicles and are expected to constitute 100 percent of sales within a few years.

In 1980, the State of California proposed limiting the sulfur content of diesel fuel to 0.05 percent by weight. An analysis by the staff of the California Air Resources Board showed that the benefits in California of such a proposal included reductions of about 20 percent in SO_2 and sulfate levels by 1990; improvement in visual range of 9 to 15 percent; increased service life of zinc and zinc-coated materials; between 311 and 889 deaths averted annually; and a 0.7 percent reduction in health costs.

Based on low growth assumptions, the Office of Technology Assessment has estimated that by 1995 a standard of 0.05 percent maximum sulfur content would decrease emissions of sulfur nationwide by 285,000 tons annually below the level expected if current sulfur content in fuel were to be maintained. The increased cost of fuel that meets a 0.05 percent standard was estimated by California to be between 1.5 cents and 6.4 cents a gallon.

The Committee reviewed these estimates of benefits and costs and concluded that limiting the sulfur content in diesel fuel to no more than 0.05 percent by weight at the time when diesel-powered vehicles make up a significant portion of the nation's total vehicle fleet is a sound public policy.

IMPORTED VEHICLES (SEC. 206)

SUMMARY

This section amends section 203(b)(2) and section 206(a)(1) of existing law. Current law prohibits importation of vehicles without a certificate of conformity with applicable emissions standards, unless the importer posts a bond and promises to modify the vehicle to conform to U.S. standards. This section eliminates importation of any vehicle that does not have a certificate of conformity, with two exceptions: vehicles that are part of a class of vehicles for which an application for a certificate of conformity is pending, or vehicles over five model years old. The section also makes it clear that an importer of vehicles who is not otherwise a manufacturer may not be considered a small manufacturer for the purpose of the small volume certification procedure available under section 206(a)(1).

DISCUSSION

In 1970 the Congress provided a mechanism for returning members of the armed services and tourists to bring into the United States vehicles that were manufactured outside the United States and that did not comply with U.S. vehicle emission standards. The importer was required to post a bond and to modify the vehicle to meet the emission standards. At that time foreign manufacturers certified only a limited number of model lines for importation into the United States. In recent years, most foreign manufacturers have built an extensive line of U.S. certified vehicles. It is now a relatively simple procedure for anyone traveling or stationed outside the United States to obtain a U.S. certified vehicle at the place of manufacture. Therefore, the problem which the provision was intended to address has disappeared.

Currently, the provision is being used by importers of exotic and high-performance vehicles which the manufacturers have chosen not to certify to U.S. standards. These importers bring about 3,000 of these vehicles into the country each year, furnish a bond and promise to modify them to meet emissions standards. Under this scheme the vehicles must pass only a single short test, rather than undergo the 50,000 mile durability testing requirement with which manufacturers must comply in order to have vehicles certified. There have been many problems with these vehicles after they are sold to consumers. The pollution control equipment added to the vehicles is often not well suited to their performance characteristics, and local dealers are often ill-equipped to improve the emission control performance on vehicles which were not made to be sold in the United States. There is little reason to believe that many of these vehicles will actually comply with U.S. emissions standards.

This amendment corrects this situation and only allows vehicles into the United States which have been granted a full EPA certificate of conformity. The provision as amended allows for an exemption for vehicles which are waiting for certification to become final.

The amendment also continues the current EPA practice of allowing an individual who has never before imported a nonconforming vehicle into the country to do so, if the vehicle is at least five model years old at the time of importation.

VEHICLE IMPORTS INTO TERRITORIES (SEC. 207)

SUMMARY

This section amends section 203(b)(2) of the Act to make an exception from the vehicle certification requirements of the Act for vehicles imported into a Territory of the United States, where the vehicles will be used solely within the Territory for commercial or public transportation purposes, where the number of such vehicles does not exceed 500 per year, and where the Territory is not a nonattainment area.

DISCUSSION

Section 203 of the Act requires that vehicles imported into the United States be certified by EPA as meeting auto emission standards. The Committee has determined that this requirement in some instances may impose an unnecessary hardship on the citizens of some of our isolated island territories.

The example brought to the Committee's attention was the situation in American Samoa. American Samoa is an island of 76 square miles with 35,000 inhabitants, located some 2,300 miles southwest of Hawaii. There are constant trade winds, no heavy industry and no identified air pollution problems. Most of the population live in small villages connected by a system of narrow roads (less than 50 miles paved) which go over rugged volcanic terrain. The total vehicle population is less than 3,000, with most American Samoans relying on commercial or public transportation. Many of the types of motor vehicles most suitable for use on American Samoan roads are not typically certified by EPA as conforming to the requirements of title II of the Clean Air Act. To require certification of the very limited number of commercial or public transportation vehicles imported by American Samoa each year would probably make unavailable those vehicles best suited for use on the island.

The circumstances in American Samoa led the Committee to create a narrow exemption from the Act's certification requirements for imported vehicles. It is the Committee's belief that this limited exemption provides needed relief without threatening air quality.

LEAD IN GASOLINE (SEC. 208)

SUMMARY

This section requires that the average levels of lead in gasoline, that is, the average for all gasoline as well as the average for gasoline that contains lead, not increase above levels achieved during the quarter ending June 30, 1982.

DISCUSSION

Lead has long been recognized as a substance which can severely damage human health, especially that of children. Lead additives are regulated under the Clean Air Act, both because it is an additive which can render ineffective catalytic converters on autos and because control of the lead content in gasoline is effective in reducing blood lead levels.

In 1980 the National Academy of Sciences published a report, *Lead in the Human Environment,* recommending that all significant sources of lead be controlled. The report specifically commended the reduction of lead in gasoline as a major lead control strategy.

In February 1982, the Environmental Protection Agency announced that it would consider whether the existing rules and regulations designed to control the lead content of gasoline should be relaxed or withdrawn. In August 1982, EPA proposed to revise the lead regulations in a manner that would not permit increased lead levels. The Agency stated that "environmental lead exposure continues to be a national health problem and that lead from gasoline is a significant contributor to this problem."

The Committee amendment establishes in the Act a ceiling for the lead content in gasoline that is consistent with the conclusions of the National Academy of Sciences and EPA. The amendment does not eliminate or restrict EPA authority to deal with the competitive issues involved in limiting lead in gasoline. Nor does it prohibit offsets, trading, or other strategies to meet requirements. It only requires that (1) the average lead content of leaded gasoline not be allowed to increase, and (2) the average lead content of all gasoline, unleaded as well as leaded, not be allowed to increase above the levels achieved in the second quarter of 1982.

DEFINITIONS (SEC. 209)

SUMMARY

Section 209 amends section 216 of the Act, to establish new definitions for several key terms used in title II of the Act.

Heavy duty vehicles are defined as motor vehicles with gross vehicle weights over 8,500 pounds, curb weights over 6,000 pounds, or basic vehicle frontal areas over 45 square feet.

Light duty trucks are defined as motor vehicles with gross vehicle weights of 8,500 pounds or less and curb weights of 6,000 pounds or less, and which are designed (1) primarily for transportation of property or are derivatives of such vehicles, (2) primarily for transportation of people and have capacities for more than 12 people, or (3) for off-road use.

Light duty vehicles are defined as motor vehicles which are designed primarily for transportation of people and which have capacities for 12 or fewer people.

EPA is given administrative flexibility to designate as heavy duty vehicles certain vehicles falling within the statutory criteria for light duty trucks.

The designated high altitude areas where vehicles must meet high altitude emission standards are defined as the counties which are subject to EPA's current high altitude regulations and which are located in a State in which one or more such counties were nonattainment during 1982 for one or both of the automobile-related air quality standards (carbon monoxide and ozone).

The high altitude conditions for determining compliance with high altitude emission standards are defined as an elevation of 5,300 feet or a barometric pressure corresponding to that elevation.

The low altitude conditions for determining compliance with low altitude emission standards are given the meaning used in EPA's current regulations. EPA is given administrative flexibility to revise that definition.

DISCUSSION

Heavy duty vehicles, light duty trucks, light duty vehicles.—The Committee bill amends the Act to conform to the primary classifications of motor vehicles which have evolved during EPA's 12 years of experience in regulating motor vehicle emissions. Those primary classifications are heavy duty vehicles, light duty trucks, and light duty vehicles.

By contrast, the Act currently distinguishes only two primary classifications of motor vehicles: heavy duty vehicles and light duty vehicles. The overlap of the Act's statutory provisions and EPA's practices has created a confusing situation in which some vehicles treated by EPA as light duty trucks are subject to the Act's provisions on heavy duty vehicles, and the other vehicles treated by EPA as light duty trucks are not subject to any statutory specifications.

The Committee provisions eliminate this confusing situation by adopting statutory provisions which conform to current EPA regulations. Those regulations establish classifications which, having evolved from the practical experience of EPA and the motor vehicle manufacturers, have proved to be successful.

To ensure the legislative ratification of the current regulatory definitions does not prevent EPA from adapting its regulations to changes in motor vehicle characteristics which may evolve, the Committee adopted a provision enabling EPA to classify as heavy duty trucks any vehicles with gross vehicle weights over 6,000 pounds but not over 8,500 pounds which are designed primarily for commercial (including agricultural) use and are not designed for uses performed by light duty trucks. This provision will prevent the relatively more stringent light duty truck emission standards from being a disincentive to development of smaller and more efficient vehicles to be used for the types of commercial uses now performed only by heavy duty vehicles. Any vehicles so reclassified by EPA would be subject to high altitude emission standards, to avoid any abuse of this provision as a means to escape the high altitude emission standards for light duty trucks. However, the high altitude emission standards applying to these reclassified vehicles would be based on heavy duty vehicle emission standards.

Designated high altitude areas.—The designated high altitude areas—those areas where high altitude emission standards will be in effect—are defined as those counties that are listed as high altitude counties in EPA's current regulations and that are in a State containing at least one such high altitude county which, according to 1981 air quality data, is nonattainment with rspect to the national air quality standard for either carbon monoxide or ozone (or both). The high altitude counties are those which have substantially all of their area located above 4,000 feet in elevation.

According to EPA data submitted to the Committee, four States—Colorado, Nevada, New Mexico, and Utah—include high altitude counties which exceeded in 1981 either the carbon monoxide or ozone air quality standard. The designated high altitude areas therefore include:

State of Colorado

Adams
Alamosa
Arapahoe
Archuleta
Boulder
Chaffee
Cheyenne
Clear Creek
Conejos
Costilla
Crowley
Custer
Delta
Denver
Dolores
Douglas
Eagle
Elbert
El Paso
Fremont
Garfield
Gilpin
Grand
Gunnison
Hinsdale
Huerfano
Jackson
Jefferson
Kit Carson
Lake La Plata
Larimer
Las Animas
Lincoln
Mesa
Mineral
Moffat
Montazuma
Montrose
Morgan
Otero
Ouray
Park
Pitkin
Pubelo
Rio Blanco
Rio Grande
Routt
Saguache
San Juan
San Miguel
Summit
Teller
Washington
Weld

State of Nevada

Carson City
Douglas
Elko
Esmeralda
Eureka
Humboldt
Lander
Lincoln
Lyon
Mineral
Nye
Pershing
Storey
Washoe
White Pine

State of New Mexico

Bernalillo
Catron
Colfax
Curry
De Baca
Grant
Guadalupe
Harding
Hidalgo
Lincoln
Los Alamos
Luna
McKinley
Otero
Mora
Rio Arriba
Roosevelt
Sandoval
San Juan
San Miguel
Santa Fe
Sierra
Socorro
Taos
Torrace
Union
Valencia

State of Utah

Beaver
Box Elder
Cache
Carbon
Daggett
Davis
Duchesne
Emery
Garfield
Grand
Iron
Juab
Kane
Millard
Morgan
Piute
Rich
Salt Lake
San Juan
Sanpete
Sevier
Summit
Tooele
Uintah
Utah
Wasatch
Wayne
Weber

The definition of designated high altitude areas does not include the counties over 4,000 feet in elevation in Arizona, Idaho, Montana, Nebraska, Oregon, Texas, and Wyoming—counties where 1982 and 1983 vehicles are subject to high altitude emission standards. Since these States do not include any areas with auto-related pollution levels exceeding the national ambient air quality standards, the Committee does not believe it necessary to require new light duty vehicles and light duty trucks sold in these areas to met high altitude emission standards. Under the provisions of sections 202(f) and 206(f) of the Act, as amended by the Committee bill, new light duty vehicles and light duty trucks sold in these high altitude areas may comply with either low altitude or high altitude emission standards.

High altitude conditions.—The high altitude conditions under which vehicles subject to high altitude emission standards must comply with those standards are defined as an elevation of 5,400 feet, or a barometric pressure equivalent to that elevation. This is intended to be consistent with the current EPA criteria for high altitude test conditions.

Low altitude conditions.—The low altitude conditions under which vehicles subject to low altitude emission standards must comply with those standards is defined to have the meaning given to that term in current EPA regulations, which is an elevation less than 1,800 feet. The Administator is given authority to revise that definition.

TITLE III

JUDICIAL REVIEW (SEC. 301)

SUMMARY

This amendment revises the provisions of the Clean Air Act governing judicial review of Agency actions. Section 307(b)(1) of the Act is amended to provide that petitions for review of locally or regionally applicable actions may be filed only in the U.S. Court of Appeals for an appropriate circuit, and petitions for review of nationally applicable actions may be filed either in the U.S. Court of Appeals for the District of Columbia or in any U.S. Court of Appeals for a Circuit in which the petitioner resides or transacts business.

Section 307(b)(2) of the Act is amended to establish a random selection procedure, to be administered by the Administrative Office of the United States Courts, to determine in an orderly fashion the court of appeals in which an agency action is reviewed when petitions for review have been filed in two or more courts of appeals. Following the selection of a single court of appeals other courts in which petitions have been filed are directed to promptly transfer such petitions to the court in which the agency record has been filed. Notwithstanding the random selection procedure, any court in which a petition has been filed retains the power to transfer the petition to any other court of appeals for the convenience of the parties or otherwise in the interest of justice.

The new section 307(b)(3) of the Act changes the period within which a petition for review of an agency action must be filed from sixty days to one hundred and twenty days after notice of such action is published in the *Federal Register*.

Finally, the existing paragraph (2) of section 307(b) of the Act is redesignated as paragraph (4).

DISCUSSION

The principal purpose of this amendment is to allow the filing of petitions for review of nationally applicable actions of the Administrator under the Clean Air Act in U.S. Courts of Appeals other than the U.S. Court of Appeals for the District of Columbia, which currently has exclusive jurisdiction over such petitions. Upon examination of this issue, the Committee has concluded that exclusive judicial review of agency actions in the D.C. Circuit is unnecessary and undesirable.

The justification for centralized judicial review of environmental laws is that it eliminates the possibility of conflicting interpretations of the law in different circuits and allows a single court to develop expertise in this area of the law. However, in the judgment of the committee these advantages are insufficient to offset the disadvantages of centralized judicial review, which include inconvenience to litigants who do not reside in Washington, D.C., and an unwarranted concentration of power in a single inferior tribunal, which may in turn generate political pressures on the appointment of judges. Centralizing review in a single court also deprives the law of diverse views on complex legal issues, and as a result may make the task of the Supreme Court more difficult. Although other circuit courts of appeals may not possess the technical expertise of the D.C. Circuit, the responsibility of the courts is to review actions of EPA for conformity with the law, not to undertake technical review of the details of regulations, and the Committee has no reason to believe that other courts of appeals lack competence to review regulations and other actions under the Clean Air Act.

Unlike existing language, the revision of section 307(b)(1) approved by the Committee does not list specific regulations or other actions as either nationally, or locally or regionally, applicable. These lists are omitted solely because they are unnecessary, and it is not the intention of the Committee to change the category to which such regulations or actions are assigned.

The random selection process created by the new provisions of section 307(b)(2) is intended to avoid the "race to the courthouse" phenomenon and provide for an orderly means of consolidating petitions for review of the same agency action. The Committee wishes to emphasize that this process is not intended to preclude any court of appeals from exercising its inherent power of transferring a petition for review to any other court of appeals for the convenience of the parties or otherwise in the interest of justice.

The amendment to section 307(b)(3) changes the period within which a petition for review of an agency action must be filed from sixty to one hundred and twenty days. In view of the seriousness of the possible consequences of a failure to challenge an action of the administrator within the prescribed time period, the Committee wishes to ensure that persons who will be directly affected by a regulation or other action have ample opportunity to assess the consequences of such action and file a petition for review prior to the expiration of the time period. The Committee believes, in view of the broad scope of many of the regulatory programs under the Clean Air Act and the many persons who may be affected by them, that one hundred and twenty days is a more reasonable period than sixty days within which to require the filing of a petition for review.

AWARD OF FEES (SEC. 302)

SUMMARY

This amendment modifies section 304(d) of the Act to limit the awarding of costs of litigation in any action brought pursuant to section 304(a) to prevailing or substantially prevailing parties.

The amendment also establishes a corresponding limitation with regard to awards made pursuant to actions brought under section 307.

DISCUSSION

In the case of *Sierra Club* v. *Gorsuch*, 672 F. 2d 33 (D. C. Cir. 1982), the court awarded attorney's fees to the petitioner even though the government prevailed on all issues. The award was based on the language of section 307(f) of the Clean Air Act, which permits the court to award costs of litigation "whenever it determines that such award is appropriate." The purpose of this amendment is to limit such awards in the future, under both section 304(d) and section 307, to parties who prevail or substantially prevail on the issues involved in a case. The Committee does not believe that it is reasonable or appropriate to compel either the government or a private party to pay the costs of an opposing party to a lawsuit when the opposing party has not prevailed on the issues.

The amendment is not intended to preclude the awarding of costs (including attorney fees) to a partially prevailing party with respect to the issues on which that party has prevailed, if an award is deemed appropriate by the court.

AUTHORIZATIONS FOR APPROPRIATIONS (SEC. 303)

SUMMARY

The Committee bill authorizes appropriations of $177,000,000 for fiscal year 1983, and $200,000,000 for each of the 4 fiscal years beginning in 1984 for carrying out the provisions of the Act other than research, development and demonstrations and studies funded under part E.

DISCUSSION

The Committee recommended authorizing appropriations for fiscal year 1983 at the level established for 1982, recognizing that this is, in real terms, a decrease in funding but that Federal budget considerations require restraint. The bill continues to emphasize the major role State and local agencies are intended to play in carrying out the requirements of the Act, and the Committee believes that Federal funds in the form of grants to those agencies must be maintained at least at current levels to enable them to carry out their responsibilities.

Authorizations for the 4 fiscal years after 1983 are increased only modestly, to $200,000,000 annually, in recognition of the need to balance program needs against constraints on the Federal budget.

Wood Smoke Study (Sec. 304)

SUMMARY

This section requires the Administrator to study the emissions from residential and commercial wood-burning fires, particularly emissions of carbon monoxide and particulate matter. The Agency is to submit the results of the study, including any recommendations on performance standards for wood-burning stoves, by December 31, 1984.

DISCUSSION

The resurgence of wood as a major source of home heat in certain areas of the United States is apparently contributing to higher levels of air pollution during the winter months. Woods fires have been found to contribute an increasing percentage of the particulate matter concentrations in the ambient air.

Very little research has been done on methods of measuring or controlling emissions from wood-burning stoves, but the little study that has been done indicates that the particulates emitted from these fires are in the small size range, which can easily pass deep into the lungs and cause irritation of the lung lining.

A study by researchers at the Monsanto Research Corporation indicated that the levels of carbon monoxide, particulates and potentially hazardous polycyclic organic matter were substantially higher for both fireplaces and wood-burning stoves than for gas- and oil-fired furnaces. The study concluded: "Clearly, the environmental impact of increased residential wood combustion needs to be thoroughly evaluated."

The Committee believes that more needs to be known about the nature and control of emissions from wood-burning stoves. The study required by this section is limited to wood combustion for residential, commercial, and institutional uses with a heat input of less than five million British thermal units per hour. If in the course of this study it seems appropriate to take regulatory action on wood combustion emissions, the Administrator is directed to use the existing authorities of this Act for that purpose.

Indoor Air Quality Study (Sec. 305)

SUMMARY

EPA is directed to carry out a program of research on indoor air quality, and to report the results of that research to Congress within four and a half years.

DISCUSSION

People spend large amounts of each day indoors—in many cases, 80-90 percent—in a house, an office or other workplace, a store, or a restaurant. Indoor exposure to environmental pollutants can be substantial. Although there is little epidemiologic evidence on the health effects of indoor pollutants, indoor concentrations of some pollutants that already have national ambient air quality standards exceed those standards. Indoor exposure has been largely overlooked in research on the health effects of environmental pollutants, but it can constitute an important fraction of the total exposure to many pollutants.

The research program on indoor air quality which is authorized by this section is identical to the program which would have been authorized by the EPA research and development authorization bill for fiscal year 1983, which has been passed by both Houses of Congress but vetoed by the President because of his objections to other provisions of the bill.

COLD WEATHER CARBON MONOXIDE EMISSIONS STUDY (SEC. 306)

SUMMARY

This section directs the Environmental Protection Agency to study the feasibility and benefits of requiring motor vehicle design modifications or engine adjustments for the purpose of reducing carbon monoxide emissions under cold weather conditions, while maintaining or improving performance characteristics and fuel economy.

The Administrator is directed to submit to Congress a report containing the findings and recommendations of the study not later than two years after date of enactment.

DISCUSSION

In the Clean Air Act oversight hearings conducted by the Committee in Fairbanks, Alaska, testimony was received concerning the problem of high emissions of carbon monoxide from motor vehicles under cold weather conditions. These "cold start" emissions occur during the first few minutes of operation of motor vehicles, and comprise a significant part of the total emissions of carbon monoxide during the winter months when ambient concentrations are greatest. This problem, while it is most severe in Alaska, also occurs in other northern states. The purpose of this amendment is to require EPA to determine if there is a way of reducing cold start emissions of carbon monoxide—either through design modifications or engine adjustments—that does not impair the performance or fuel economy of the vehicle.

HEARINGS

The Committee held 27 days of hearings to review the implementation and effectiveness of the Clean Air Act and to consider specific proposals for legislative change. Twenty-one of these hearings were conducted in Washington, D.C.

Hearings in Randolph, Vt., Augusta, Maine, and Albany, N.Y., provided testimony on interstate pollution, including the problem of acid rain.

Hearings in Billings, Mont., and Casper, Wyo., concentrated on issues related to energy development and the visibility and PSD provisions of the Act.

A hearing in Fairbanks, Alaska, focused on special air pollution problems that occur under meteorological conditions prevalent in that State and on issues associated with energy development in pristine areas.

A hearing in Seattle, Wash., considered issues related to attaining the health-based primary ambient standards and to requirements of the PSD and visibility provisions of the Act.

ROLLCALL VOTES

During the Committee's consideration of this bill, 20 rollcall votes were taken. Each of those votes was publicly announced during the open meetings of the Committee for marking up this legislation. The tabulation of those votes is available in the Committee's files.

Pursuant to section 133 of the Legislative Reorganization Act of 1970 and the rules of the Committee on Environment and Public Works, the vote of the Committee to report the bill is announced here. The Committee ordered reported the Clean Air Act Amendments of 1982 on August 19, 1982, by a vote of 15-1 with Senators Stafford, Baker, Domenici, Chafee, Simpson, Abdnor, Gorton, Murkowski, Randolph, Bentsen, Burdick, Hart, Moynihan, Mitchell, and Baucus voting in the affirmative and Senator Symms in the negative.

EVALUATION OF REGULATION IMPACT

In compliance with requirements of paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee has evaluated the regulatory impact of this legislation.

The bill does not change to any significant extent the number or groups or classes of individuals or businesses presently subject to regulation under the Clean Air Act.

A major economic impact is anticipated to result from the Interstate Transport and Acid Precursor Reduction Program established by section 120. A detailed analysis of the possible economic consequences of this program is included in this report in the discussion of section 120. Changes to the requirements for emission controls on motor vehicles will provide a net savings to consumers over requirements in existing law, due to the changes in requirements for automobile emission controls in high altitude areas. The specific economic effects of changes to requirements for light duty vehicles, light duty trucks, and heavy duty trucks are described in this report in the discussions of sections 201, 202, 203, and 204.

No impact on the personal privacy of individuals is anticipated as a result of the Committee bill.

No significant net increase in paperwork is anticipated as a result of the Committee bill.

COST OF LEGISLATION

Section 403 of the Congressional Budget and Impoundment Control Act requires each bill to contain a statement of the cost of such bill prepared by the Congressional Budget Office. That report follows:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, D.C., November 15, 1982.

Hon. ROBERT T. STAFFORD,
Chairman, Committee on Environment and Public Works,
U.S. Senate,
Washington, D.C.

DEAR MR. CHAIRMAN: Pursuant to Section 403 of the Congressional Budget Act of 1974, the Congressional Budget Office has prepared the attached cost estimate for the Clean Air Act Amendments of 1982.

Should the Committee so desire, we would be pleased to provide further details on this estimate.

Sincerely,

ALICE M. RIVLIN, *Director.*

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE—NOVEMBER 15, 1982

1. Bill number: Not yet assigned.
2. Bill title: Clean Air Act Amendments of 1982.
3. Bill status: As ordered reported by the Senate Committee on Environment and Public Works, August 19, 1982.
4. Bill purpose: This bill amends and extends the Clean Air Act. It requires the Environmental Protection Agency Administrator to conduct studies and prepare reports regarding clean air issues, including hazardous air pollutants, indoor air quality, wood smoke pollution, and industrial emission limits. The bill authorizes the appropriation of $5 million in each of fiscal years 1983–85 for matching grants to state projects to develop improved or innovative methods of neutralizing or restoring the buffering capacity of bodies of water altered by acid rain. An additional appropriation of $50 million in authorized for fiscal year 1984 to fund up to 25 percent of a joint demonstration project among the Tennessee Valley Authority (TVA) and others for electricity generation using an atmospheric fluidized bed combustion process. Appropriations author-

ized for purposes of carrying out other provisions of the bill amount to $192 million for fiscal year 1983, $215 million for 1984, and $211 million for each of fiscal years 1985 through 1987.

5. Estimated cost: Federal Government:

[By fiscal years, in millions of dollars]

	1983	1984	1985	1986	1987
Authorization level	197	270	216	211	211
Less: Estimated existing appropriation	155				
Net authorization	42	270	216	211	211
Estimated outlays	25	143	182	207	223

The costs of this bill fall within budget function 300.

6. Basis of estimate: The authorization levels are those stated in the bill. Appropriations of $155 million was provided by Public Law 97-272 for clean air programs for fiscal year 1983. An additional appropriation of $10.5 million for EPA salaries and expenses was included in that appropriation bill, but EPA has not yet allocated that amount among programs. The actual appropriation for air programs will be higher by the amount allocated to clean air programs. Beginning with fiscal year 1984, appropriations are assumed to occur prior to the start of each fiscal year. Based on information provided by the TVA, the cost of the demonstration project is estimated to be $200 million. For purposes of this estimate, it was assumed that the TVA will be successful in securing 75 percent of that amount from private sector contributions, and the $50 million authorized to fund the remaining 25 percent will be appropriated. Outlays were estimated based on information from the TVA and the past spending patterns for clean air programs.

7. Estimate comparisons: None.

8. Previous CBO estimate: None.

9. Estimated costs: State and local governments: This bill would provide $5 million for each of fiscal years 1983-85 to states to fund up to 75 percent of costs for programs related to neutralizing or restoring the buffering capacity of acid-altered bodies of water. In addition, certain administrative responsibilities would be added to those currently conducted by state and local governments. Estimated state and local outlays resulting from enactment of this bill are shown in the following table.

[By fiscal years, in millions of dollars]

	1983	1984	1985	1986	1987
Estimated State and local outlays	16	17	12	10	10

For purposes of this estimate, it was assumed that, in order to receive matching grants in fiscal years 1983-1985, states will provide 25 percent of program costs for acid-altered bodies of water. Initial program development costs of increasing state administrative responsibilities, primarily for prevention of significant deterioration (PSD) and acid rain control programs, are estimated to average $500,000 per State, or $25 million. These costs are estimated to be incurred in fiscal years 1983 and 1984. Ongoing program costs, beginning in 1984, are estimated to be an average of $150,000 per state or $7.5 million annually (at 1982 prices). These costs will vary depending on size, location, and response of each state. In 1981, states spent about $230 million for clean air programs. This estimate was based on information obtained from the State and Territorial Air Pollution Program Administrators.

10. Estimate prepared by: Anne E. Hoffman.

11. Estimate approved by:

C. G. NUCKOLS
(for James L. Blum,
Assistant Director for Budget Analysis).

ADDITIONAL VIEWS OF SENATOR STAFFORD

The reported bill contains a set of provisions designed to control acid rain by reducing emissions of sulfur dioxide by 8 million tons over a 12-year period within a 31-State region. This proposal is a good first step and I supported it, as did 15 of the Committee's 16 Members.

That this proposal is a good first step should not be taken to mean that it is the best first step. I could support this proposal because the vast majority of the other Members could do likewise and because the alternative might be no bill at all. It was in this spirit of consensus and achieving the possible that I reluctantly abandoned, temporarily at least, my preference for a proposal to achieve larger reductions in less time.

In my view the best alternative would be to mandate a net reduction of 10 to 12 million tons from 1980 levels, to be achieved over a period of 8 to 10 years, with accelerated and substantial interim reductions. We should also examine all means of reducing oxides of nitrogen. Sanctions should be adopted to assure that those who refuse or fail to comply with reduction requirements bear the costs of rehabilitating or restoring the resources damaged or lost due to acid deposition. Finally, we should assure that lowered emission levels, once achieved, are maintained.

I know that some of my colleagues disagreed with these views, but were able to support the middle ground represented by the reported bill. Thus, the same willingness to build a consensus that enabled the Committee to adopt amendments to other provisions of the law, while rejecting still others, also enabled us to unite solidly behind a good acid rain control program. For myself, I hope this consensus will endure, but if it does not I hope the Committee will reexamine what I consider the best and most prudent option.

ROBERT T. STAFFORD.

ADDITIONAL VIEWS OF SENATOR BAKER

Using the findings of the National Commission on Air Quality as a starting point, the Committee on Environment and Public Works has reported amendments to the Clean Air Act after nearly 2 years of review. As the Commission concluded, the structure of the Act is sound and needs refinement rather than fundamental changes. The changes adopted by the Committee reflect this belief.

The Committee adopted one new initiative which has been and continues to be focus of intense study and research—a control program on acid rain.

While I believe it is important to move forward with an acid rain program, continuing scientific uncertainty makes it difficult to define the exact characteristics requirements of such a program without further research and detailed planning. Specifically, I have concerns regarding the acid rain proposal in two areas—new source growth and midcourse correction point.

The current provisions relating to new source growth will have the practical result of requiring utilities to offset their own emissions to compensate for those resulting from industrial recovery or growth in their states. Under the current Acid Rain proposals the increases in emissions in industrial emissions, both at existing industrial plants from new plant or plant additions, would have to offset in states in the ARMS region. But increases in the nineteen states outside the ARMS region would not. This discrimination could have two types of adverse effects in the 31 states in the ARMS regions. First, it would forestall new growth and send it instead to one of the 19 exempted Western States. Second, these emissions offsets would also raise electric rates substantially in the states where they were required.

My second concern relates to a strong midcourse correction point. I do not believe that we should adopt a proposal which requires that some SO_2 emission reductions be mandated in the short term prior to submission of the six major reports to Congress or the accelerated research program that is required in the proposal.

I believe it is prudent to require the states and EPA to move ahead now and formulate plans for meeting a range of SO_2 emission reductions. The purpose of our acceleration of research in this area and the provisions for submission of the required reports to Congresss is to give us the benefits of greater knowledge as to both the expected benefits and costs. This will afford us an opportunity to make any midcourse corrections that may be needed before these plans are actually put into effect and costs incurred under them.

Howard H. Baker, Jr.

ADDITIONAL VIEWS, SENATORS SLADE GORTON AND GARY HART

Although we support the rest of the Committee bill, we strongly opose section 107, which includes special provisions exempting nonferrous smelters from the normal requirements of the Clean Air Act. When the full Senate considers the Committee bill, we will offer an amendment to this section, to include reasonable safeguards in the special smelter provisions.

We do not oppose specific legislation to provide relief to individual industries which are unable to comply with the normal requirements of the Clean Air Act, as is the case with the smelter industry. Domestic smelters are especially hard-hit by the recession, and face unfair competition from foreign firms which are subsidized by their governments. But any legislation designed to treat one industry differently from other industries should be carefully balanced, to reflect the interests of all affected parties. The steel "stretch-out" legislation enacted last year, which we supported, represented such a balance. The steel industry was given an extra three years to comply with clean air requirements, so pollution control expenditures would not absorb capital needed to modernize antiquated facilities. The terms of that extension were negotiated by government, industry, labor, and environmentalists. As a result of those negotiations, the legislation required, as a condition for an extension, that the capital saved by a company as a result of the delay in controlling pollution be invested in modernization of the company's plant.

Section 107 of the Committee bill does not represent a comparable balance. Neither the United Steelworkers of America (which represents the workers of all the smelters in the country) nor environmentalists were consulted in developing the Committee's amendment, which they oppose. Changes favord by those organizations were rejected by the Committee in the course of the markup. The resulting legislative provision merely affords open-ended relief from the Clean Air Act for smelters, providing a far broader exemption than is necessary to meet the industry's legitimate need for additional flexibility, without guaranteeing either modernization of antiquated smelters or protection of public health and the environment.

The environmental consequences of the Committee's smelter amendment would be enormous, especially in the Western United States. According to the Environmental Protection Agency (EPA), the 12 smelters in the West emit annually more than 1.1 million tons of sulfur dioxide (SO_2), five times the amount of SO_2 emitted by the coal-fired powerplants in the region. One study shows those smelters emit 80 percent of the SO_2 emitted west of the Continental Divide. These smelter emissions are the major cause of violations in the West of the national health-based SO_2 ambient air quality standard; only 1 of the 12 Western smelters is located in an area designated as attaining the SO_2 air quality standard. These emissions have also been shown to cause as much as half of the visibility impairment in the Grand Canyon, Bryce, Zion, Canyonlands, and other national parks of the Southwest. Further, as the primary source of SO_2 emissions in the West, smelters are certain to be a major cause of the acid deposition recently discovered in increasing strength in the Rocky Mountains, where high altitude lakes are highly susceptible to loss of fish life and other damage from acidity.

Controlling smelter emissions is especially important because of the anticipated growth in other SO_2 emissions as the West's vast energy resources are developed.

The Committee amendment, however, instead of ensuring smelter emissions are controlled as soon as reasonably possible, includes two provisions which will allow smelters to pollute even more.

The Committee's first major provision compounds the mistakes Congress made when it enacted section 119, which authorizes EPA and the States to issue "nonprimary smelter orders" (NSO's) exempting smelters from emission limitations contained in state implementation plans. The Committee amendment allows NSO's to remain in effect 5 years longer than now allowed—until January 1, 1993. But the committee amendment does nothing to establish reasonable conditions on the currently open-ended NSO provisions. The Committee did not tighten the eligibility criteria for NSO's, even though a court has interpreted the existing ambiguous language of the statute to provide that any smelter can receive an NSO if compliance with the state emission limitation would merely decrease its profits. The Committee did not add to section 119 a condition requiring smelters receiving NSO's to install any interim control measures, even though extension of the NSO's would allow smelters which have never installed any pollution controls to remain uncontrolled until nearly 24 years after the original Clean Air Act was enacted. The Committee did not add to the law a condition requiring smelters receiving NSO's to make commitments to modernize or replace outdated equipment and facilities, even though the reason given for the additional extensions is to allow smelters time to modernize.

As a result of these weaknesses in the Committee's provision, NSO's will remain what they are now—an unconditional exemption from the provisons of the act, allowing smelters to remain uncontrolled for an additional decade, and to petition Congress for additional extensions before they ever make commitments to limit their emissions. Moreover, there is nothing in the Committee's amendment that makes compliance with the Act's requirements attractive to any smelter in the industry from a competitive perspective. As long as unconditional extensions can be granted to its competitors under section 119, a smelter will find itself at an economic disadvantage with its competition if it does make expenditures for pollution control.

The Committee's second major provision creates another special exemption for smelters, allowing them to use "supplemental control systems" as a permanent means of compliance with the Clean

Air Act. This provision would apply to any smelter, regardless of whether it had received an NSO under section 119.

Supplemental controls are not actually controls at all; they are curtailment of a plant's operation to reduce or eliminate emissions when stagnant atmospheric conditions would cause pollution concentrations to exceed the national ambient air quality standards. Supplemental controls now are required as an interim measure by smelters which have received NSO's under section 119, but were outlawed by Congress in 1977 as a permanent control strategy. The experience of the smelters now using supplemental controls demonstrates the wisdom of that Congressional decision. All seven smelters in Arizona are now using supplemental controls, and none have been able to maintain compliance with the national air quality standards. The public health standards have been exceeded as often as 81 times a year by a single smelter.

Besides being an unreliable way to meet the national air quality standards, supplemental controls result in substantially greater overall emission. The Committee provision, by allowing smelters to use supplemental controls during 5 percent of the year, would let smelters use continuous emission controls which need be only effective enough to comply with the air quality standards 346 days of a year, instead of 364. During 18 of the remaining 19 days supplemental controls could be used. (The sulfur dioxide air quality standard may be lawfully exceeded once a year; the second highest daily concentration during any year is used to determine compliance with the standard.) Although the Committee provision defines this as "de minimis," there is nothing insignificant about the effect it would have on smelter emissions. To examples indicate the magnitude of the effect this provision would have .

One of the two copper smelters with virtually no SO_2 emission reduction technology is Kennecott's McGill smelter in Nevada. McGill emits about 105,000 tons of SO_2 per year. To comply with the state implementation plan, McGill would be required to install SO_2 control technology capable of achieving about a 60-percent reduction in emissions, thereby reducing McGill's annual emission of SO_2 to about 45,000 tons. Records on file with EPA show McGill would not exceed the ambient air quality standard more than 18 days per year if it continued operating without continuous emission controls. Thus the Committee bill would allow McGill to continue operating without pollution controls. For just this one smelter, the difference between the Committee provision and current law would be about 60,000 tons of SO_2 per year.

The Douglas smelter operated by Phelps Dodge in Arizona also has virtually no SO_2 emission reduction technology. Douglas emits about 230,000 tons of SO_2 per year. Under a state implementation plan promulgated by EPA in 1978 (but subsequently suspended), Douglas would be required to install control equipment designed to reduce its emissions by approximately 75 percent or down to about 57,000 tons per year. Under the Committee provision, Douglas would have to achieve only about a 25-30 percent reduction in emissions by use of continuous emission reduction technology. Total annual emissions from Douglas therefore would be close to 170,000 tons, or about 110,000 tons per year more than current law would allow on a permanent basis.

The Committee bill would allow these two smelters to emit about 275,000 tons per year instead of 117,000 tons under current law. The difference in total emissions for these two smelters alone would be one and a half times the total emissions from all new power plants expected to be built in the West during the rest of this century. These emissions can hardly be considered "de minimis."

The amendment we will offer to section 107 of the Committee bill will eliminate these problems, by requiring as a condition for any NSO in effect past December 31, 1988 (when NSO's expire under current law) that the smelter make binding commitments to modernize its facilities and install pollution controls, and by eliminating completely the provision allowing permanent reliance on supplemental controls.

MINORITY VIEWS OF SENATOR SYMMS

The committee bill represents the loss of a major opportunity to improve environmental regulation in this country.

In my views the 97th Congress had a mandate to reform the thicket of Federal regulations which has proliferated so rapidly in recent years. Few regulatory laws are more in need of reform than the Clean Air Act, which has been aptly described as a statute whose "bewildering detail begins to rival that of the Internal Revenue Code." By reform it should be understood that I do not mean changes that would weaken the Clean Air Act or result in deteriorating air quality. That is clearly not what the American people want. Our mandate was to reform the Clean Air Act by making it simpler, more flexible, more efficient and cost-effective, without reducing the national commitment to clean air. That the Clean Air Act can be made substantially less burdensome without jeopardizing the goals of the Act is not simply the opinion of industry or the present Administration. It is also the conclusion reached by a wide range of unbiased evaluations of the Act.[1] Yet, incredibly enough, the Committee bill not only fails, with few exceptions to significantly improve the Act, but it would actually magnify some existing weaknesses and launch ill thought-out initiatives which ignore the costly lessons of past experience.

Before examining the individual parts of the Committee bill, it may be useful to examine the bill as a whole. One way of measuring the inadequacy of the Committee bill is to compare it with the recommendations of the National Commission on Air Quality.

The National Commission was created by the 1977 Amendments to the Clean Air Act for the purpose of evaluating the air pollution control program created by the Act and recommending improvements. The Commission was chaired by Senator Gary Hart and made up of two Senators, two Congressmen, and nine members of the public appointed by President Carter. I think it is fair to say that from an ideological perspective the Commission and its staff had a distinct tilt toward the point of view of the major environmental organizations. The Commission report is unsatisfactory in many respects. It does not analyze the assumptions or structure of the Act in a critical way, and ignores crucial issues, such as the percentage reduction requirement which applies to new source performance standards for coal-fired power plants. The recommendations of the Commission would leave the existing regulatory program largely intact. They are not proposals for fundamental reform. The Commission recommendations consist of modifications of existing programs the cumulative effect of which would be, in the words of Senator Hart, to "streamline" the Clean Air Act. Yet even this modest package of reforms was largely rejected by the Committee. To cite a few examples:

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[1] See "National Commission on Air Quality, To Breathe Clean Air" (1981); L. Lave and G. Omenn, "Clearing the Air: Reforming the Clean Air Act" (Brookings Institution (1981)); B. Ackerman and W. Hassler, "Clean Coal/Dirty Air" (1981); L. While, "The Regulation of Air Pollutant Emissions From Motor Vehicles" (AEI 1982); Pedersen, "Why the Clean Air Act Works Badly," 129 U. Penn. L. Rev. 1059 (1981); Harrison and Portney, "Making Ready for the Clean Air Act," March/April 1981, regulation 24.

> The Commission recommended that motor vehicle inspection and maintenance programs be required only in urban areas with populations greater than 500,000 where ozone or carbon monoxide levels are at least 50 percent greater than the ambient standard; the Committee bill requires I&M programs for areas with a population greater than 200,000 which exceed the ozone standard by 50 percent or the CO standard by any amount, thereby requiring I&M for far more areas than recommended by the Commission.
>
> The Commission recommended that sources smaller than 500 tons per year be subject only to the New Source Performance Standards; the Committee bill will continue to require a Best Available Control Technology (BACT) review for such sources.
>
> The Commission recommended that the PSD increment system be eliminated for most areas of the county unless individual States wish to retain it; the Committee bill requires the States to go through a difficult and burdensome process or they will continue to be subject to the increments.
>
> The Commission recommended that the final statutory carbon monoxide automobile standard of 3.4 grams per mile should be changed to 7.0 grams per mile at least through 1986. The Committee bill leaves the carbon monoxide standard unchanged.
>
> The Commission recommended that the Act's requirements on nitrogen oxides emission standards for trucks be retained, including the existing EPA authority to relax the standards if justified. The Committee bill would eliminate the current EPA discretionary authority.
>
> The Commission recommended that the Act be amended to provide for discretionary, rather than mandatory, Federal initiation of civil actions against major sources that have not complied with control requirements within 30 days after receiving a notice of violation. The Committee bill ignores this recommendation.
>
> The Commission recommended that the 1982 and 1987 deadlines for attainment of the National Ambient Air Quality Standards be eliminated and replaced by regular EPA reviews of the progress made by nonattainment areas in implementing necessary control measures. The Committee bill retains rigid deadlines.

Of course, the Committee bill does include some of the recommendations of the National Commission. And the amendments to the State implementation plan review and approval process and the provisions of the bill concerning Judicial Review and Attorney's Fees are generally worthwhile. But with regard to the major flaws of the Clean Air Act the Committee bill is a totally inadequate response.

NATIONAL AMBIENT AIR QUALITY STANDARDS

The primary and secondary national ambient air quality standards (NAAQS) provide the basis for much of the regulatory program created by the Clean Air Act. The primary NAAQS protect public health; the secondary NAAQS protect against other adverse effects.

Under the Act the Administrator of EPA is supposed to identify for each major pollutant a threshold level below which no adverse health effects, no matter how mild or temporary, will occur in even the most sensitive subgroups of the general public. The primary standard then must be set below the threshold level, with an added margin of safety.

Unfortunately, the scientific community has been unable to identify threshold levels for most pollutants, certainly not at levels corresponding to the present primary NAAQS. It is now thought that there is a continuum of health effects down to very low or zero levels of pollution. Therefore, a standard which allows any pollution at all will fail to protect against all conceivable adverse effects. From this perspective the whole notion of a margin of safety becomes somewhat absurd. If the costs of achieving a standard are completely disregarded, as the Act appears to require, the only defensible level at which to set the NAAQS is zero, a level which it would be disastrous to even try to achieve. In practice, of course, EPA Administrators have managed to avoid complying with the letter of the law. The ambiguity of so much of the scientific evidence has enabled them to set NAAQS which, with few exceptions, are reasonable. But the legal fiction that the primary NAAQS are determined solely on the basis of health effects has meant that many of the factors which must be taken into account if a standard is to have a rational basis must either be ignored or considered sub rosa. Consequently, the hard questions which should be asked in the standards-setting process have been avoided. For example, can we justify spending tens of thousands of dollars to avert one day a year of mild discomfort for an especially sensitive individual, given the other uses to which the resources could be put? Furthermore, as scientists inevitably prove the existence of health effects at lower and lower pollution levels, the Administrator may be compelled to set standards which will be prohibitively expensive to achieve, even though the adverse health effects thus avoided may be trivial.

The irrationality of this approach is even more pronounced in the case of the secondary NAAQS, which are supposed to protect against all adverse effects other than health effects. Again, abatement costs cannot be taken into account, even if a secondary NAAQS would require that billions of dollars be spent on pollution control measures for the sake of avoiding a few thousand dollars in damages.

The best alternative to the present standards-setting process is not an equally mechanistic and narrowly focused cost-benefit analysis. A simple change authorizing the Administrator to explicitly consider and take into account such factors as naturally occuring background levels, the severity of any health risks, the size of the population affected, and the social and economic consequences of different standards would be sufficient to put the NAAQS on a much sounder foundation. The Committee bill completely fails to address this fundamental weakness at the heart of the Clean Air Act.

THE PERCENTAGE REDUCTION REQUIREMENT

As successive series of amendments have transformed the Clean Air Act into the bewildering labyrinth it is today, provisions have been added to the Act which have little to do with air quality. The most egregious example of such a provision is the percentage reduction requirement. This requirement means that new coal-fired powerplants must achieve a percentage reduction—currently 90 to 70 percent—in the concentration of sulfur dioxide in their flue gases, in addition to complying with an overall limit on emissions of sulfur dioxide. The purpose of this requirement is to prevent new power plants from complying with the new source performance standard by burning coal with a very low sulfur content.

Under the precentage reduction requirement a flue gas desulfurization device, or "scrubber", is required for all new coal-fired powerplants. A scrubber for a typical new power plant may cost $200 million plus high annual operating costs, all of which is added to electricity rates. Yet a facility using low-sulfur coal may emit as little as 0.6 pound of sulfur dioxide per million Btu, compared to emissions of up to 1.2 pounds from a plant burning high-sulfur coal even after scrubbing. Clearly it is sometimes to the advantage of both the consumer and the environment for a utility to use lower-sulfur coal in lieu of scrubbing but, ironically enough, a requirement has been written into the Clean Air Act which takes away the natural economic advantage possessed by a cleaner fuel.

The percentage reduction standard should be expeditiously repealed, and EPA should establish a performance standard for powerplants in the same way it does for other industrial facilities. Any new jobs which may be created in the high-sulfur coal fields by the percentage reduction requirement are more than offset by the job losses and other negative economic consequences which it causes elsewhere in the economy. Any environmental benefits which may accrue from universal scrubbing could be achieved more cheaply and efficiently through a performance standard.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

The National Emission Standards for Hazardous Air Pollutants (NESHAPS) suffer from the same basic conceptual flaw as the National Ambient Air Quality Standards (NAAQS). NESHAPS are supposed to protect against any risk to public health with an ample margin of safety. Since most hazardous air pollutants are thought to be carcinogens, and since no completely safe level has been identified for carcinogens, such a standard would require an emission standard of zero, which is usually not technically feasible. Because of this impractical mandate, and because it has proven difficult to identify emissions which are causing increased mortality or serious illness, relatively few NESHAPS have been promulgated. To some degree the regulatory process can be speeded up by devoting more resources to the evaluation of scientific evidence. This EPA is already doing. Congress could also make the standard-setting process much more rational and easier for EPA to grapple with by substituting an "unreasonable risk" standard for the present zero-risk standard and authorizing EPA to require implementation of economical, readily available control measures as an intermediate step before promulgation of a final emission standard, as recommended by the National Commission on Air Quality. Instead the Committee bill continues to require that the NESHAPS provide a wholly fictional "margin of safety" and attempts to overcome the absence of an adequate scientific basis for regulation by forcing decisions on a prescribed list of substances. This is a sure recipe for shoddy regulation and endless litigation. The requirement that a substance be regulated simply because EPA fails to make a determination within the allotted time is particularly irrational. The manufacturers and users of a chemical should not be punished for a failure by EPA, and if EPA is unable to make the threshold determination that a substance is hazardous it will also be unable to come up with a sensible emission standard.

PREVENTION OF SIGNIFICANT DETERIORATION

There are two basic parts to the Prevention of Significant Deterioration (PSD) program. By far the most important in terms of air quality is the requirement that major new sources of air pollution use the best available control technology (BACT). The BACT requirement is often duplicative of the New Source Performance Standards, and in some cases it may require more expensive pollution controls than are really justified, but at least it does reduce the amount of pollution from new sources.

The other half of the PSD program is a system of maximum allowable increases, or "increments," which apply to all areas which are meeting one or more of the ambient standards—essentially the entire country. Under the system each such area is designated as either Class I, II, or III. The classification determines the additional "increment" of each pollutant which is allowed above the existing "baseline." Any new source must, in addition to using BACT, show through computer modeling that the applicable increments will not be violated.

As outlined in the Clean Air Act this scheme seems to be, although complicated, at least comprehensible. But the National Commission on Air Quality, referring to the modeling requirement, found that "the PSD program . . . requires a technical mechanism to describe very precisely air quality levels. Examination of the analytical tools available . . . suggests that such a precise mechanism may not exist." The National Commission also found that elimination of major elements of the program, including the Class II and III increments, would have no appreciable effect upon BACT determinations or emissions growth. When one examines the way the increment system actually functions in practice, it quickly becomes apparent that this program, which its proponents support for its long-term benefits, will in the long term inevitably become so far removed from reality and so unimaginably complex that the only purpose it can serve will be to arbitrarily impede and delay new facilities.

Determining whether a new facility will cause "significant deterioration" of air quality in an area is very difficult. It is a judgment requiring the analysis of the air quality related values of the area (visibility, etc.), the total emissions from the new facility and from other facilities, terrain, local and regional meteorology, the size of the population affected, expected future growth in the area, and ultimately the preferences of the community. The increment system makes all these factors subordinate to a single arcane and usually irrelevant measure of air quality, which cannot even be determined with the necessary accuracy.

The increment system was also based on the fear that without it air quality would steadily deteriorate in clean air areas until the national ambient standards were reached. It is now apparent that this is not a realistic possibility and that the reverse is probably true. As existing facilities are replaced with cleaner new facilities air quality should improve in most areas.

It is also clear that we can adequately protect the pristine air quality of the National Parks and Wilderness areas—a concern that was the driving force behind the development of PSD—with a much simpler and more narrowly focused program than the present increment system.

The treatment in the Committee bill of this hopelessly flawed system is particularly disappointing. The process of determining BACT is tinkered within an effort to take away flexibility from the States and allow less consideration of individual circumstances. A few superficial improvements are made in the increment system, and then (except for the Class I and Federal Class II areas) it is dumped in the lap of the States, which did not want the Class II increments in the first place and have never believed in them. The Committee bill will place further economic and political strain upon already hard-pressed State agencies, and may result in an even more complex and incoherent system than we now have.

VISIBILITY PROTECTION

In the 1977 Amendments to the Clean Air Act the Congress created a program, in addition to the class I increments, for the purpose of preventing future, and remedying existing, impairment of visibility in mandatory class I Federal areas. On the basis of this broad and somewhat vague mandate EPA issued proposed regulations in December, 1980. Although the statute refers to visibility "in" class I areas EPA interpreted the law to require the protection of visibility within "integral vistas" extending far beyond the boundaries of the class I areas. In effect this would amount to an enormous expansion of the area subject to the jurisdiction of the Federal Land Managers, mostly in the western states.

I believe that protecting visibility over State and privately owned lands is the responsibility of the States, not the Federal Land Manager, and the Clean Air Act should be amended to make it clear that the purpose of the Visibility Protection program is to protect visibility within the class I areas. In addition it should be made clear that what is to be prevented is a reduction in visibility which would significantly impair a visual experience which is an important aspect of the class I area.

Because it imposes some limitations on the scope of the visibility protection program I supported the compromise in the Committee bill, but a more appropriate solution would be to limit the program to its original purpose of protecting visibility inside of national parks and wilderness areas.

NONATTAINMENT AREAS

The sections of the Committee bill dealing with nonattainment issues reflect the same failure to face up to structural problems that characterizes the rest of the bill. They are a collection of half-measures and special fixes which will inevitably require further Congressional tinkering within a few years. Two provisions merit being singled out as particularly counterproductive.

Under current law a ban applies to the construction or major modification of a facility which emits a pollutant in areas which are nonattainment for that pollutant and which (1) have failed to attain the ambient standard before the applicable deadline, (2) are not covered by an approved state implementation plan, or (3) are not fully implementing an approved plan. This ban applies even though the facility in question must fully comply with the SIP and entirely offset any new emissions with reductions elsewhere. The effect of the construction ban is almost entirely perverse. It punishes the innocent and prevents the replacement of old, heavily-polluting facilities with new facilities which have far lower emissions. The construction ban should be deleted from the Act. Instead, the Committee bill would greatly increase the impact of the construction ban by overturning an EPA policy allowing new facilities within the same plant so long as no net increase in emissions occurs.[2]

The Committee bill would also continue to require that states impose vehicle inspection and maintenance programs in most areas which have not attained the national ambient air quality standards for carbon monoxide or ozone. The I&M requirement has caused an enormous amount of friction and ill-will between EPA and the states. Partly this is due to the questionable benefits of I&M, particularly as a control measure for ozone, when compared to the economic and political costs of the programs. But mainly it is due to the resentment felt by elected state legislators when told by EPA officials that they must enact laws conforming to EPA specifications. Under the Act EPA establishes the national ambient air quality standards but it is up to each State to determine how the standards are to be achieved. The 1977 amendments departed from this basic division of responsibility by requiring I&M programs even if a State can achieve attainment by other means. Each State, so long as it can attain the ambient standards prior to the final deadlines, should be free to choose whether or not to have an I&M program.

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[2] This change would confirm the recent decision of the D.C. Court of Apeals in *NRDC* v. *Gorsuch*, 685 F. 2d 718 (D.C. Cir. 1982), which is presently being appealed by EPA.

ACID RAIN

The Interstate Transport and Acid Precursor Reduction Program contained in section 120 of the Committee bill would launch perhaps the most expensive scientific experiment in history, with the electricity ratepayers of the eastern half of the United States picking up the tab.

It is difficult to assess the costs of the program, but models developed by the Office of Technology Assessment and ICF, Incorporated suggest that costs would be at least in the range of $2–3 billion annually. Furthermore, those models assume that the utilities will be able to achieve the required reductions in the way which is most efficient from the standpoint of economics. Practical difficulties or political considerations could easily generate much higher costs. In addition to rate increases and strain on the financial resources of the utilities, the Committee proposal would disrupt eastern coal markets, with all the human cost which that would entail.

The central question is, what would be the benefits of this enormous expenditure? The startling answer is that no one really knows. We do know that there is a problem of acidification in many lakes and streams in Canada and the Northeastern United States. We are pretty certain that this problem is at least exacerbated by emissions of sulfur dioxide and nitrogen oxides. But there is great scientific uncertainty over the environmental consequences of the 8-million ton reduction called for in the Committee proposal. To be sure, some reputable scientists believe that such a reduction will substantially alleviate the problem. But equally reputable scientists have very different views. To quote some recent testimony before the Committee:

> Right now we have a situation where the margin of uncertainty in my opinion is intolerable . . . [We] have a situation where it is very difficult for me to tell you that if you control SO_2 by 50 percent you will see an effect any place downwind . . .—Dr. Kenneth L. Demerjian, Director of the Meteorology and Assessment Division, Environmental Sciences Research Laboratory, Environmental Protection Agency.
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> What limited research has been done to date indicates that the reduction in sulfur dioxide emissions called for by the pending legislation would most likely not result in an equivalent reduction in acidic deposition in the sensitive areas and might—might—result in no measureable decrease in acid rain in those areas at all. This means that the control strategy adopted by these bills cannot be defended on the basis of science at this time.—Dr. Volker A. Mohnen, Director, Atmospheric Sciences Research Center, State University of New York at Albany.
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> In conclusion, then our new data have suggested that the system of sources and transport of pollution aerosol in the Northeast is considerably more complex than was recognized previously and that substantial portions of the Northeast may be influenced primarily by northeastern rather than midwestern aerosol, even during sulfate episodes. If this view is correct, it casts considerable doubt on

> the popular view of the Midwest as the dominant source of acidity throughout the Northeast.
>
> From recent contacts with scientists working in other aspects of acid precipitation, I have learned that similarly large uncertainties exist in many of their areas, the depths of which are not generally appreciated by nonspecialists. It is my impression that many of these problems can be resolved with a few years of intensive effort, such as we have heard already today. Considering the decades or centuries that acid precipitation has been with us, a few years' wait is not critical in my judgment. Now that the Congress has passed the Acid Precipitation Act of 1980 and has called for a decade of concentrated research, I see no scientific reason why we should assume the answers before the research has hardly gotten underway. To legislate strong controls on certain pollutants before the entire system is understood, especially when those controls are focused on one area of the country, seems to me to be several years premature at best and potentially disastrous economically at worst. . . . There is no ecological crisis that demands such rapid action, in my opinion.—Dr. Kenneth Rahn, Associate Research Professor, Graduate School of Oceanography, University of Rhode Island.

The argument has been made that we should act now and fill in the gaps in scientific knowledge later. This argument might have merit if we were facing a sudden crisis or if the economic consequences of the Committee proposal were not so large. The problem that is loosely identified as "acid rain" has developed gradually and there is no indication that it will take a sudden turn for the worse in the near future. The massive abatement measures which are proposed would also take years to implement. I think that it is prudent to insist that before committing ourselves to such an undertaking we be reasonably sure that it will in fact solve the problem, and that the environmental benefits are at least commensurate with the costs. By now we should have learned that good intentions and a willingness to spend other people's money are no substitute for a thorough, realistic understanding of the problem.

My State would be affected neither positively nor negatively by the mandated reduction in sulfur dioxide emissions, and consequently I can view this issue from a purely objective perspective. I am not trying to downplay the damage that has occurred in the Northeastern states and Canada, or the urgency of doing something about it. But I do not think that it would be in the public interest to plunge ahead at this time with a program of the kind that is embodied in the Committee proposal, and I strongly urge my colleagues to oppose it.

INTERSTATE POLLUTION

Section 121 of the bill was hardly discussed by the Committee, but if enacted it could turn out to be the key to Pandora's Box. Undoubtedly years of litigation would be required to determine the full impact of the changes made to sections 126 and 304 of the Clean Air Act, but clearly they amount to an invitation to the Federal judiciary to step in and create on an ad hoc basis a completely new system for the regulation of interstate pollution. For example, a single Federal District Court could decide to order remedies which would completely supplant any program devised by Congress to deal with acid rain. The case has not even begun to be made for opening the legal floodgates in this manner. Passage of section 121 would amount to an abdication of responsibility for interstate pollution by the Congress.

MOBILE SOURCES

My position on the carbon monoxide emission standard for automobiles is described in detail in my Separate Views on Automobile Emission Standards. In addition some of the other provisions of the Committee bill concerning mobile sources deserve mention.

Most of the changes to the mobile source provisions of the Clean Air Act would take flexibility away from the regulation of mobile sources by limiting the discretion of the Environmental Protection Agency. In my view setting emission standards for trucks, establishing a limit on the sulfur content of diesel fuel, and determining whether or not foreign sports cars can be modified to conform to U.S. emission standards are not appropriate actions for a committee of the U.S. Senate to undertake. These kinds of minor and highly technical regulatory issues should be left to an expert administrative agency to resolve.

REGULATORY INFLEXIBILITY

A general problem with the Clean Air Act is what has been described as its "lamentable rigidity" and the extreme distrust of EPA and the state air pollution control agencies which the Act reflects.

A regulatory program which subjects an enormously diverse array of emissions sources to a uniform set of standards and deadlines will, because of unforeseeable circumstances, inevitably impose unreasonable requirements upon individual sources. In the case of the Clean Air Act, Congress has attempted to respond to this problem with a confusing jumble of narrow waiver and variance procedures for individual industries, while refusing to give any administrative official the general authority to modify or waive regulations in cases in which they have unreasonable results. Congress is no longer justified, if it ever was, in presuming that the federal and state environmental protection agencies lack sufficient commitment to their regulatory missions to be relied upon to make difficult—or in the case of the States, even routine—judgments. I certainly have not detected any lack of zeal. Simply as a practical matter we have no real choice but to give them more responsibility. At present, the Clean Air Act is to a considerable degree being administered by the Federal Courts, the branch of government which is least equipped to make the complex technical judgments which are required. The cost of continued statutory inflexibility in terms of litigation, delay, economic waste, and erosion of support for the Act far outweigh the risks which greater administrative discretion may entail. By requiring EPA and the State agencies to regularly justify any waivers and carefully overseeing the implementation of the Act, Congress can guard against potential abuses.

Yet the Committee bill does nothing to improve this situation, and in fact would add to the Act's rigidity rather than reduce it.

STEVE SYMMS.

SUPPLEMENTAL VIEWS OF MR. SYMMS

These are hard times for the domestic automobile industry. The industry has incurred huge losses in recent years and many thousands of jobs have been lost, not only in the manufacturing sector but also in a wide range of related industries. The severely depressed condition of the auto industry has contributed substantially to the economic hardship which exists in communities throughout the Nation.

The economic plight of the auto industry does not automatically call into question the environmental regulations which apply to the industry. The health and safety of the American people must always come first. Yet at the same time, the economic circumstances of a basic industry cannot be ignored. Unnecessary or ineffective regulations are a luxury which the country cannot afford at the present time. We cannot retain costly regulations simply for the sake of their symbolic value; such regulations must be justified by real environmental benefits.

The emission standards for new automobiles were established by the Clean Air Act of 1970 and modified slightly by the 1977 Amendments. They were originally based upon the assumption that, in order for the most polluted areas of the country to comply with the national ambient air quality standards, emissions of hydrocarbons, nitrogen dioxide, and carbon monoxide from automobiles would have to be reduced by at least 90 percent. In the case of hydrocarbons and carbon monoxide, emissions were already being partially controlled by 1970, and so this goal represented a reduction from uncontrolled levels of 96 percent.

In retrospect it is clear that the goal of a 90 percent reduction in emissions of each of the three major auto pollutants was to a large degree arbitrary and was only crudely related to attainment of the national ambient air quality standards. In addition, as the following table shows, the relationship of the emission standards to actual emissions from in-use vehicles is neither consistent nor well understood.

TABLE I.—AVERAGE LIFETIME (100,000 MILES) EMISSIONS OF GASOLINE AUTOMOBILES

Pollutant and year model	Standard (gm/mi)	Average emissions (gm/mi)		Ratio of emissions to standard	
		EPA	NCAQ [1]	EPA	NCAQ [1]
Hydrocarbons:					
Pre-1968	None	8.15			
1975-76	1.50	2.74	2.41	1.8	1.6
1977-78	1.50	2.74	2.55	1.8	1.7
1979	1.50	2.74	1.83	1.8	1.2
1980	.41	1.74	.94	4.2	2.3
1981	.41	1.34	.87	3.3	2.1
1982	.41	1.34	.82	3.3	2.0

TABLE I.—AVERAGE LIFETIME (100,000 MILES) EMISSIONS OF GASOLINE AUTOMOBILES—Continued

Pollutant and year model	Standard (gm/mi)	Average emissions (gm/mi)		Ratio of emissions to standard	
		EPA	NCAQ [1]	EPA	NCAQ [1]
1983	.41	1.34	.76	3.3	2.1
1984+	.41	1.34	.79	3.3	1.9
Carbon monoxide:					
Pre-1958	None	89.5			
1975-76	15.0	34.5	29.8	2.3	2.0
1977-78	15.0	34.5	32.9	2.3	2.2
1979	15.0	34.5	22.6	2.3	1.5
1980	7.0	20.4	16.9	2.9	2.4
1981	3.4	19.4	16.9	5.7	5.0
1982	3.4	19.0	14.7	5.6	4.3
1983	3.4	18.8	11.7	5.5	3.4
1984+	3.4	18.8	12.4	5.5	3.6
Nitrogenoxides:					
Pre-1968	None	3.44			
1975-76	3.1	2.63	2.55	.8	.8
1977-79	2.0	2.19	2.10	1.1	1.1
1980	2.0	2.06	2.10	1.0	1.0
1981	1.0	1.50	1.34	1.5	1.3
1982+	1.0	1.50	1.44	1.5	1.4

[1] National Commission on Air Quality.

Note: EPA emission estimates include impact of use of leaded gasoline on vehicles equipped with catalytic converters; Commission estimates do not take this into account.

Source: "To Breathe Clean Air," Report of the National Commission on Air Quality (1981), p. 199.

Nevertheless, over the past decade the question of when and if the auto industry could certify new cars to the ultimate statutory standards has dominated the debate about auto emissions. Although they were conceived on the basis of the very questionable assumptions, the emission standards have since acquired a symbolic importance which has overshadowed their relationship with attainment of the national ambient air quality standards. In the face of strong industry resistance, the emission standards came to represent a test of congressional commitment to clean air.

It is not our intention to reopen the debate about when it was technically feasible for the industry to comply with the emission standards, and we hope that the bitterness and mutual distrust engendered by the struggle over that issue will dissipate rapidly. Whether or not it was done in the best way, a great deal of progress has been made. Because of the emission standards new cars emit far less pollution than their predecessors, and this has resulted in a substantial improvement in air quality in most areas. Furthermore, as the proportion of new cars in the national automobile fleet increases we can expect to see additional steady improvement in air quality over the next ten years. Now that the development of sophisticated emission control technology has successfully been "forced" we are in a position to put the battles of the 1970's behind us. The auto emissions standards should be reevaluated in the light of what we have learned over the last decade about their relationship to ambient air quality.

As might be expected, given the history and emotional nature of this issue, no consensus has emerged with regard to either the effect or the desirability of changing any of the auto emissions standards. The views of industry and the environmental community remain for apart. However, we believe that with regard to the carbon monoxide standard a compelling case has been made for a small relaxation of the standard, at least for the next 4 years.

As has been previously noted, the current 3.4 grams per mile carbon monoxide standard for automobiles represents a theoretical reduction in emissions from uncontrolled emission levels of 96 percent. The 1980 standard of 7 grams per mile (which, because of EPA waivers, is also the applicable standard for most 1981 and 1982 autos) represents a theoretical reduction of 93 percent. Actual in-use emissions are expected to be somewhat higher than the emission standard but, as Table I indicates, both EPA and the National Commission on Air Quality have predicted that in terms of emissions the difference between the 7 grams per mile standard and the 3.4 grams per mile standard would be very small. The crucial question, however, is what will be the effect of a change in the carbon monoxide standard upon ambient air quality. Because of uncertainty about the in-use performance of different emission control systems, the number of new cars that will be sold in future years, the number of miles those cars will be driven, and other factors, this question cannot be answered with precision. However, in the judgment of the National Commission on Air Quality, the Environmental Protection Agency, and the California Air Resources Board, the adverse effect upon air quality which would result if the 3.4 grams per mile carbon monoxide standard were changed to 7 grams per mile would be trivial at worst. The following statements from the Commission Report make this point very clearly:

> The National Academy of Sciences estimates that changing the carbon monoxide automobile emission standard to 7 grams per mile would reduce manufacturing costs by $30 to $60 per vehicle and improve fuel economy by up to 1 percent. Actual in-use carbon monoxide emissions would not increase significantly, if at all, if the standard were set at 7.0 grams per mile rather than at 3.4 grams per mile. (p. 33)
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> A Commission study investigated the effect of a 3.4 gram per mile standard compared to a 7.0 gram per mile standard on areas currently exceeding the national ambient standard for carbon monoxide. The study found no changes in the areas ability to meet the ambient standard when EPA emission factors were used and only very slight inhibiting effects when Commission factors were used. (p. 199)

Based on these findings the Commission made the following recommendation:

> The final statutory carbon monoxide automobile standard of 3.4 grams per mile should be changed to 7 grams per mile, to be effective as soon as practicable after enactment of amendments to the Act, and remain in effect through the 1986 model year. The Environmental Protection Agency should be given authority to continue the 7 grams per mile standard beyond model year 1986 or establish a standard between 3.4 and 7 grams per mile if it is found that protection of public health can be achieved as

> expeditiously and effectively with a 7 grams per mile or an intermediate standard as with the 3.4 grams per mile standard. (p. 62)

The Environmental Protection Agency, using more recent data on air quality trends and in-use deterioration rates, has reached similar conclusions and made similar recommendations. In 1980 the Carbon Monoxide Control Assessment Panel of the National Research Council called for a reassessment of the 3.4-gram-per-mile carbon monoxide standard and strongly suggested that a 7-gram standard would be more appropriate.[1] A recent study by Professor Lawrence J. White supports this conclusion.[2] Finally, the State of California, which has the most severe auto pollution problems of any state and which is exempt from Federal emission standards because its own state standards have traditionally been more stringent than those required by the Clean Air Act, has chosen to retain a 7-gram standard. If there were any significant benefit to be gained from a 3.4-gram standard it is difficult to believe that California would have retained the 7-gram standard.

Arguments against a 7-gram carbon monoxide standard fall into two general categories.

First, it is argued that the National Commission on Air Quality, the Environmental Protection Agency, and the State of California are simply incorrect, that emissions under a 7-gram standard would be much higher than under a 3.4-gram standard and that the 3.4-gram standard is necessary if the national ambient air quality standard is to ever be attained. This argument hinges on a number of "worst case" assumptions which are, to say the least, highly unlikely. For it to be correct, improvements in the design of emission control systems which are expected to improve reliability must have no positive effect whatever, vehicle miles traveled in the areas where traffic is presently heavy must increase much more than most experts expect, the twenty-nine states which are required to have vehicle inspection and maintenance programs must defy the law (which the Committee bill reaffirms), and current EPA air quality monitoring data must turn out to be incorrect. A certain amount of uncertainty is inherent in any projection of future air quality, but one does not have to be an incurable optimist to see that the assumptions used by the National Commission and EPA provide a much more reasonable basis for determining public policy than the assumptions used by their critics. Furthermore, if the recommendation of the National Commission is adopted and all of the worst-case assumptions turn out to be correct, under the terms of the recommendation the carbon monoxide emission standard for 1987 and later years would automatically revert to 3.4 grams per mile. Under even the most extreme of the worst-case scenarios a 7-gram standard would have little adverse effect if it applied only until 1986.

What emerges most clearly from any detached analysis of projections of future ambient levels of carbon monoxide is that the effect of changing the emissions standard from 3.4 grams to 7 grams is relatively minor regardless of what assumptions are made.

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[1] "Letter Report on the Feasibility of Light Duty Vehicles to Comply With Existing 1980 CO Standards," National Research Council, June 30, 1980.

[2] "The Regulation of Air Pollutant Emissions From Motor Vehicles," AEI, 1982, pp. 107-108.

The second major argument against a 7-gram standard is that if the states and the general public perceive that a major relaxation of the emission standard for carbon monoxide has taken place, then there will be much more resistance to vehicle inspection and maintenance programs and other necessary control measures. Of course, this a possiblility only if a 7-gram standard is portrayed as being what it is not, a major relaxation of the carbon monoxide standard. A 7-gram standard would not significantly retard attainment of the national ambient air quality standard, and it should be possible to communicate that fact to the general public.

Although the air quality benefits of a 3.4-gram carbon monoxide standard are vanishingly small when compared to a 7-gram standard, the costs are significantly greater for the 3.4-gram standard. The National Research Council estimate of $30–60 per automobile and a 1-percent fuel economy penalty is probably conservative, but over the 4-year period covered by the National Commission recommendation it would still amount to a cost, borne by the industry and the consumer, of over $2 billion.

In the context of the overall effort to control air pollution from motor vehicles the change in the automobile carbon monoxide standard that we support amounts to no more than a minor adjustment. It would not impair further progress toward attainment of the National Ambient Air Quality Standard. It would not even make a major reduction in the costs of controlling auto emissions, which were recently estimated to be about $1450 per new car in 1981.[3] What it would do is lighten the burden for financially hard-pressed auto companies, workers, and consumers at a critical time, and at almost no cost to the environment.

STEVE SYMMS.

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[3] Lawrence J. White, "The Regulation of Air Pollutant Emissions From Motor Vehicles," AEI, 1982, p. 64.

ADDITIONAL VIEWS OF SENATOR JENNINGS RANDOLPH

The bill reported by the Committee on Environment and Public Works is the result of nearly 2 years of review of this basis environmental statute and its implementation. When this activity started early in 1981, several Committee members, myself included, indicated their belief that a wholesale rewriting of the Clean Air Act was not necessary. We believed that the basic form and objectives of the laws were correct and that our task would be to recommend any adjustments that might be necessary on the basis of experience and changing conditions.

Throughout the 97th Congress our goal has been to make the Clean Air Act a more workable tool for obtaining the objectives enunciated by the Congress in 1970 and restated in 1977. We have attempted to improve balance and to work toward the goals of the Clean Air Act without imposing hardships on any segment of the American society or economy.

These objectives are generally reflected in the bill. With one exception this measure addresses pollution abatement efforts contained in the existing statute. The single new activity is the proposed program for the reduction of acid rain.

This control program, although improved over earlier proposals, requires the commitment of resources in large quantities too far in advance of the completion of studies that could indicate a strategy different from that incorporated in the bill. It could bring about undesirable consequences that might be avoided by a more deliberate approach to a complex environmental and economic issue.

The acid rain control program is based on the belief that acid rain is generated mainly by sulfur emissions from large utility and industrial sources, primarily located in the mid-western States. While there is a substantial body of scientific opinion that these emissions, once they reach the upper atmosphere, are transformed into acidic substances that are deposited on the earth many miles from their sources, causing damage to crops, wildlife and forests, other scientific viewpoints contend that this sequence of events has not been conclusively proven and that further research is necessary before extensive, costly control programs are instituted.

The acid rain control program adopted by the Committee reflects several suggestions which I made during Committee consideration of this subject. Among these improvements are a decrease in the total sulfur dioxide reduction target, a longer period allowing rational planning and less drastic implementation of any reduction, a lessening of constraints on new source construction, an accommodation of utility coal conversion, a mechanism for accelerated study and full review before controls are imposed, and the avoidance of a bias toward fuel-switching as a compliance strategy. Together with these improvements in the acid rain control program, the general thrust of the bill in making needed modifications in the Act permitted me to support reporting this measure to the Senate.

This program, however, still falls short of assurances I believe are required to avoid major disruption in the production and consumption of coal. Such a program cannot be permitted to eliminate jobs in the coal industry, where there is already widespread unemployment. Nor should we require heavy expenditures for control technology during these times of economic distress and in the absence of further evaluation of scientific data on the causes, results and cures of acid rain.

The Committee bill provides an opportunity for the Congress to review the results of the accelerated research and the likely costs of control before any of the controls go into effect. This inclusion of my proposal allows a real opportunity for midcourse correction before heavy expenditures or major dislocation in coal markets. I believe, however, that controls should not be imposed until an informed Congress in the mid-1980's, possessing the results of research and studies called for by the bill, affirmatively decides to go ahead with an acid rain control program.

If the Congress is not required to positively direct the implementation of an acid rain control program, action could be taken in the near term at the State level and in the private sector which would have undesirable consequences regardless of the outcome of the accelerated studies authorized by the bill. The development of sulfur reduction plans could encourage many coal-burning industries to move quickly to secure long-term supplies of low sulfur coal, even well in advance of their actual need. This would greatly reduce the use of technology for compliance purposes and would exacerbate undesirable and unnecessary dislocations in coal production. The result could be extensive reductions in the mining of high sulfur coal and even higher levels of unemployment which could become permanent.

Even if additional study confirms the magnitude of the acid rain problem and the wisdom of this bill's control strategy, the nation may not be able to afford it. An acid rain program at this time would require the commitment of vast monetary resources which could otherwise be applied to stimulating the economy in a time of continuing, severe recession.

For these reasons, I expressed my reservations at the time the Committee adopted the acid rain control program. Together with other members of the Committee, I held open the possibility of developing legislative modifications to be offered when this bill is considered by the full Senate. That consideration of alternative approaches is underway. One such approach is contained in S. 2959 which I introduced on September 24, 1982.

Members of the Committee should be commended for their serious and diligent approach to the review of the Clean Air Act during the 97th Congress. The issue of acid rain, however, is one which requires further study and refinement.

JENNINGS RANDOLPH.

ADDITIONAL VIEWS OF SENATOR BURDICK

While I voted to report this bill out of Committee, and I agree with most of its elements, I feel that a minor revision of provisions relating to the Prevention of Significant Deterioration (PSD) section is necessary, to achieve a balance between development and protection of the environment.

The need for amendment of section 163 of the Clean Air Act to eliminate the existing short-term Class I Prevention of Significant Deterioration (PSD) increments for both sulfur dioxide and particulate matter is of considerable significance to orderly and economically sound energy development. The issue deals specifically with need to eliminate the short-term increments as opposed to retaining them and relying upon the certification procedures as established under section 165 (C) and (D) of the Act, to dictate energy development.

The difficulties encountered in evaluating potential air pollution impacts against the existing short-term PSD sulfur dioxide and particulate matter increments has been well documented. These difficulties include the requirements to use "worst case" pollutant emission assumptions, theoretically adverse weather conditions, poorly understood concepts of atmospheric chemistry and dispersion, and the application of "computer models" that yield results with an error factor of two orders in magnitude. Additionally, the results must be compared to increment values, particularly in the case of sulfur dioxide, so small that no technology exists to actually measure them in the field. The retention of annual increments can eliminate many of the uncertainties and ambiguities of the present process while continuing to protect the air quality related values of PSD Class I areas.

QUENTIN N. BURDICK.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of Rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill as reported are shown as follows: Existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman:

TITLE I—AIR POLLUTION PREVENTION AND CONTROL

* * * * * * *

GRANTS FOR SUPPORT OF AIR POLLUTION PLANNING AND CONTROL PROGRAMS

SEC. 105. (a) * * *

* * * * * * *

(c) Not more than 10 per centum of the total of funds appropriated or allocated for the purposes of subsection (a) of this section shall be granted for air pollution control programs in any one State. In the case of a grant for a program in an area crossing State boundaries, the Administrator shall determine the portion of such grant that is chargeable to the percentage limitation under this subsection for each State into which such area extends. In fiscal year 1978 and subsequent fiscal years, subject to the provisions of subsection (b) of this section, no State shall receive less than one-half of 1 per centum of the annual appropriation for grants under this section for grants to agencies *(other than agencies designated by Indian tribes under the provisions of section 302(b)(5))* within such State. *No requirement like that in the previous sentence shall apply to the level of grants to be awarded to agencies designated by Indian tribes under the provisions of section 302(b)(5).*

* * * * * * *

AIR QUALITY CRITERIA AND CONTROL TECHNIQUES

SEC. 108. (a)(1) * * *

* * * * * * *

(g) The Administrator shall publish and distribute to State agencies administering the permit programs required by section 110(a)(2)(D), and make available to other interested persons, guidance documents to assist such agencies in implementing the requirements of parts C and D regarding best available control technology and the requirements of part D regarding reasonably available control technology. Such guidance documents shall be published within one year after the date of the enactment of the Clean Air Act Amendments of 1982 and shall be updated at least every year thereafter. Such documents shall describe the determinations of best available control technology and reasonably available control technology which have been made by the Administrator (under section 110(c)) and by State air pollution control agencies. In describing such determinations, the Administrator shall distinguish among different sizes, types, and categories of sources, and shall take care to describe such determinations made with respect to major emitting facilities of the sizes, types, and classes subject to the requirements of sections 169(3)(B) and 171(3) (B) and (C) in sufficient detail to enable States to make the determinations required by those sections.

NATIONAL AMBIENT AIR QUALITY STANDARDS

SEC. 109. (a)(1) * * *

* * * * * * *

(b)(1) * * *

(2) Any national secondary ambient air quality standard prescribed under subsection (a) shall specify a level of air quality the attainment and maintenance of which, in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare from [any] known or anticipated adverse effects associated with the presence of such air pollutant in the ambient

air. Such secondary standards may be revised in the same manner as promulgated.

* * * * * * *

IMPLEMENTATION PLANS

SEC. 110. (a)(1) * * *
(a)(2) * * *

* * * * * * *

(B) it includes emission limitations, schedules, and timetables for compliance with such limitations, *or (for implementation plans or revisions thereof other than initial implementation plans or comprehensive revisions required (i) by establishment or revision of a national ambient air quality standard or (ii) as a condition of an extension under part D) a program to establish or modify emission limitations and schedules and timetables for compliance for particular sources in accordance with paragraph (4)(D) of this subsection,* and such other measures as may be necessary to insure attainment and maintenance of such primary or secondary standard, including, but not limited to transportation controls, air quality maintenance plans, and preconstruction review of direct sources of air pollution as provided in subparagraph (D);

* * * * * * *

(D) it includes a program to provide for the enforcement of emission limitations and regulation of the modification, construction, and operation of any stationary source, including a permit program as required in parts C and D and a permit or equivalent program for any major emitting facility, within such region as necessary to assure (i) that national ambient air quality standards are achieved and maintained, and (ii) a procedure, meeting the requirements of paragraph (4), for review (prior to construction or modification) of [the location of new sources to which a standard of performance will apply;] *new sources subject to the requirements of section 111;*

(E) it contains adequate provisions (i) prohibiting any stationary source *or sources* within the State from emitting any air pollutant in amounts which will (I) [prevent] *interfere with* attainment or maintenance by any other State of any such national primary or secondary ambient air quality standard, or (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deterioration of air quality or to protect visibility, *or (III) contribute to atmospheric loadings of pollutants or their transformation products which may reasonably be anticipated to cause or contribute to an adverse effect on public health or welfare or the environment in any other State or foreign country,* and (ii) insuring compliance with the requirements of section 126, relating to interstate pollution abatement;

* * * * * * *

[(I) it provides that after June 30, 1979, no major stationary source shall be constructed or modified in any nonattainment area (as defined in section 171(2)) to which such plan applies, if the emissions from such facility will cause or contribute to concentrations of any pollutant for which a national ambient air quality standard is exceeded in such area, unless, as of the time of application for a permit for such construction or modification, such plan meets the requirements of part D (relating to nonattainment areas);]

(I) it provides that in any nonattainment area (as defined in section 171(2)) to which such plan should apply, no major stationary source shall be constructed or modified if the emissions from such source will cause or contribute to concentrations of any pollutant for which a national ambient air quality standard is exceeded in such area, if—

(i) the date established for attainment of the primary national ambient air quality standard established under section 172(a) is past and such area remains nonattainment,

(ii) the Administrator finds the State has not submitted a plan which meets the requirements of section 172(b) (3), (4), and (12) and section 173(a)(1), or

(iii) the State or a local government with responsibility to implement a portion of the plan is not implementing each requirement of a plan adopted or promulgated in accordance with section 172,

unless the amount of emissions from such source will be offset by reductions in the emission of such pollutant in such area in accordance with the requirements of section 173(a)(1)(A) and the amount of such emission reduction is twice as great as the amount of emissions from such source;

* * * * * * *

[(3)(A) The Administrator shall approve revision of any implementation plan applicable to an air quality control region if he determines that it meets the requirements of paragraph (2) and has been adopted by the State after reasonable notice and public hearings.

[(B) As soon as practicable, the Administrator shall, consistent with the purposes of this Act and the Energy Supply and Environmental Coordination Act of 1974, review each State's applicable implementation plans and report to the State on whether such plans can be revised in relation to fuel burning stationary sources (or persons supplying fuel to such sources) without interfering with the attainment and maintenance of any national ambient air quality standard within the period permitted in this section. If the Administrator determines that any such plan can be revised, he shall notify the State that a plan revision may be submitted by the State. Any plan revision which is submitted by the State shall, after public notice and opportunity for public hearing, be approved by the Administrator if the revision relates only to fuel burning stationary sources (or persons supplying fuel to such sources), and the plan as revised complies with paragraph (2) of this subsection. The Administrator shall approve or disapprove any revision no later than three months after its submission.

[(C) Neither the State, in the case of a plan (or portion thereof) approved under this subsection, nor the Administrator, in the case of a plan (or portion thereof) promulgated under subsection (c), shall be required to revise an applicable implementation plan because one or more exemptions under section 118 (relating to Federal facilities), enforcement orders under section 113(d), suspensions under section 110 (f) or (g) (relating to temporary energy or economic authority), orders under section 119 (relating to primary nonferrous smelters), or extensions of compliance in decrees entered under section 113(e) (relating to iron- and steel-producing operations) have been granted, if such plan would have met the requirements of this section if no such exemptions, orders, or extensions had been granted.

[(D) Any applicable implementation plan for which an attainment date later than December 31, 1982, is provided pursuant to section 172(a)(2) shall be revised by July 1, 1979, to include the comprehensive measures and requirements referred to in subsection (c)(5)(B).]

(3)(A) Except as provided in subparagraph (E) of this paragraph, any revision of an implementation plan or portion thereof shall be deemed approved under this subsection one hundred and twenty days after such revision is submitted to the Administrator, unless prior to such date the Administrator disapproves such revision for failure to comply with the requirements of paragraph (2) of this subsection.

(B)(i) Any revision of an implementation plan or portion thereof shall not be considered to have been submitted until the State has provided reasonable notice and opportunity for public hearings. The Administrator shall promptly publish a notice of receipt of such submittal and announce a sixty-day period for public comment on such revision.

(ii) The Administrator shall participate in the public hearings conducted by the State on any proposed revision of an implementation plan or portion thereof to the extent appropriate and may, in the discretion of the Administrator and with the consent of the State, jointly conduct such hearings with the State.

(C) The Administrator may once extend the period within which to disapprove any revision under subparagraph (A) for a period not to exceed sixty days, if, after the close of the public comment period, the State submits additional information relating to compliance with the requirements of paragraph (2) of this subsection. The Administrator shall promptly publish notice of any such extension.

(D) The Administrator shall promptly notify the State in writing of any disapproval under subparagraph (A) and shall publish a notice of such disapproval, specifying a reasonable period of time for the State to submit a further revision which complies with the requirements of paragraph (2) of this subsection, when further revision is required.

(E)(i) If any person files comments with the Administrator during the public comment period required under subparagraph (B)(i) objecting to the approval of any revision of an implementation plan or portion of such revision, and, in the case of any revision submitted after the enactment of the Clean Air Act Amendments of 1982, demonstrates that such person filed comments on the same grounds

with the State during State proceedings on such revision, such revision shall not be deemed approved under this subsection until the Administrator determines not to disapprove such revision based on a review of matters raised in such comments. The Administrator shall make such a determination or disapprove such revision for failure to comply with the requirements of paragraph (2) of this subsection within one hundred and twenty days of the close of such public comment period.

(ii) A State, or a political subdivision thereof responsible for preparing or enforcing implementation plans or revisions thereof, filing comments based on paragraph (2)(E) of this section, shall not be required to make the demonstration that such State or political subdivision filed comments with the State during State proceedings.

(F) Any revision of an implementation plan or portion thereof in compliance with subparagraph (B)(i) submitted prior to the date of enactment of the Clean Air Act Amendments of 1982 shall be deemed to have been submitted for the purposes of this paragraph as of the date of enactment of the Clean Air Act Amendments of 1982.

(G) Neither the State, in the case of a plan (or portion thereof) approved under this subsection, nor the Administrator, in the case of a plan (or portion thereof) promulgated under subsection (c), shall be required to revise an applicable implementation plan because one or more exemptions under section 118 (relating to Federal facilities), enforcement orders under section 113(d), suspensions under section 110 (f) or (g) (relating to temporary energy or economic authority), orders under section 119 (relating to primary nonferrous smelters), or extensions of compliance in decrees entered under 113(e) (relating to iron- or steel-producing operations) have been granted, if such plan would have met the requirements of this section if no such exemptions, orders, extensions, or variances had been granted.

[(4) The procedure referred to in paragraph (2)(D) for review, prior to construction or modification, of the location of new sources shall (A) provide for adequate authority to prevent the construction or modification of any new source to which a standard of performance under section 111 will apply at any location which the State determines will prevent the attainment or maintenance within any air quality control region (or portion thereof) within such State of a national ambient air quality primary or secondary standard, and (B) require that prior to commencing construction or modification of any such source, the owner or operator thereof shall submit to such State such information as may be necessary to permit the State to make a determination under clause (A).]

(4)(A) No major stationary source, major emitting facility, or source subject to section 111 may be constructed unless a permit has been issued for such source or facility in accordance with this subparagraph and the applicable requirements of section 111, part C, or part D. Any such permit shall be issued only after adequate public notice and opportunity for public hearing, and on the condition that such source or facility—

(i) will not cause or contribute to levels of any air pollutant which prevent the attainment or maintenance of any national ambient air quality standard;

(ii) will not cause or contribute to levels of any pollutant in excess of a maximum allowable increase or maximum allowable concentration, in the case of a facility subject to part C;

(iii) complies with the requirements of section 173, in the case of a source subject to part D; and

(iv) achieves the degree of emission limitation which is the best available control technology pursuant to section 165(a)(4) or 173(a)(2), or for a source not subject to that requirement, complies with the applicable standard of performance under section 111.

(B) For the purpose of subparagraph (A) of this paragraph and parts C and D, the terms "constructed" and "construction" include the modification (as defined in section 111(a)(4)) of any existing source or facility which increases the emissions, or the potential to emit, of such source or facility by one hundred tons or more per year of any air pollutant.

(C)(i) In the case of any major emitting facility which is in compliance with the requirement for the best available control technology under subparagraph (A)(iv) of this paragraph, for which a permit under this section is issued after the date of enactment of the Clean Air Act Amendments of 1982, the Administrator may not require, nor require any State to require, such facility to comply with an emission limitation or standard more stringent than those contained in a permit for such facility for a period of ten years after the date of issuance of such permit. This subparagraph shall not apply to an emission limitation or standard which (I) applies to an air pollutant (including fine particulate matter) not previously regulated under sections 109 and 110, or (II) is required pursuant to section 112 or 303.

(ii) With respect to a proposed major emitting facility during the period from the date on which the application for a permit under this subsection has been deemed complete until final action on such application, the Administrator may not require, nor require and State to require, such facility to comply with any administrative or procedural requirements for the issuance of such permit or for the calculation of emissions which are adopted or modified after the date on which such application has been deemed complete.

(D) A State may adopt a program for establishing or modifying emission limitations (other than those established for a new source by a State pursuant to section 111(c), section 112, or parts C or D) and schedules and timetables for compliance for all or any class of sources in such State, through operating permits, general source-specific regulations, or other means. Any such program shall provide—

(i) methods for establishing, for particular sources, emission limitations that assure that ambient air quality standards are attained within the time required and maintained thereafter;

(ii) that each emission limitation and schedule for compliance for a particular source is established after public notice and opportunity for public hearing;

(iii) that each emission limitation requires reasonably available control technology when required under part D;

(iv) that a copy of each newly established emission limitation or modification of an emission limitation which involves a potential net increase in emissions of one hundred tons or more

per year for a particular source or a class of sources or action delaying compliance with an emission limitation for a particular source or class of sources which would reduce emissions by one hundred tons or more per year, be submitted before taking effect to the Administrator.

(E) The Administrator shall promptly publish notice of submittal of an emission limitation or schedule of compliance under subparagraph (D)(iv) and provide a thirty-day period for public comment on such submittal. No emission limitation or schedule for compliance required to be submitted to the Administrator under subparagraph (D)(iv) of this paragraph shall take effect—

(i) if the Administrator within sixty days of receipt of such submittal objects in writing to the emission limitation or schedule for compliance as being inconsistent with the requirements of this subsection and this Act;

(ii) if any person files comments with the Administrator during the public comment period required by the preceding sentence and demonstrates that such person filed comments on the same grounds with the State during State proceedings, until the Administrator determines not to object to the emission limitation or schedule for compliance; or

(iii) if such emission limitation or schedule for compliance is not submitted in accordance with subparagraph (D)(iv) of this paragraph.

Whenever the Administrator objects under clause (i), the Administrator shall proceed under subsection (c)(1) of this section if required by the provisions of such subsection.

(F) For the purposes of sections 113, 114, 120, 126, and 304 of this Act, any emission limitation or schedule or timetable for compliance established under a State program adopted under subparagraph (D) of this paragraph shall be deemed a provision or requirement of an applicable implementation plan.

* * * * * * *

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

SEC. 112. (a) * * *

* * * * * *

(b)(1)(A) The Administrator shall, within 90 days after the date of enactment of the Clean Air Act Amendments of 1970, publish (and shall from time to time thereafter revise) a list which includes each hazardous air pollutant **[**for which he intends to establish an emission standard under this section.**]** *and identifies the categories of sources which emit each such pollutant in significant amounts.*

(B)*(i)* Within 180 days after the inclusion of any air pollutant in such list, the Administrator shall publish proposed regulations establishing emission standards for such pollutant together with a notice of a public hearing within thirty days. Not later than **[**180 days**]** *one year* after such publication, the Administrator shall prescribe an emission standard for such pollutant, unless he finds, on the basis of information presented at such hearings, that such pollutant clearly is not a hazardous air pollutant. **[**The Administrator shall establish any such standard at the level which in his judgment provides an ample margin of safety to protect the public health from such hazardous air pollutant.]

(ii) The Administrator shall establish each emission standard at the level which requires the greatest degree of emission reduction of such pollutant achievable through the application of the best system of continuous emission reduction which the Administrator determines is available for the class or category of source (taking into account the cost of achieving such reduction and any nonair quality health or environmental impacts). The Administrator shall determine whether such emission standard is adequate to protect the public health with an adequate margin of safety and establish such emission standard at a more stringent level than required by the previous sentence if the Administrator determines such more stringent standard is necessary to protect the public health from such hazardous air pollutant with an adequate margin of safety. An emission standard established under this clause shall be at least as stringent as the most stringent emission limitation shown by an adequate operating history to have been achieved in practice by a source of the same class or category.

(C) * * *

* * * * * * *

(b)(2) * * *

(3) The Administrator may distinguish among classes, types, sizes, and periods of remaining useful life for sources within a category of sources for purposes of establishing standards under this subsection.

(c)(1)(A) * * *

(B) no air pollutant to which such standard applies may be emitted from any stationary source in violation of such standard [except that in the case of an existing source—

[(i) such standard shall not apply until 90 days after its effective date, and

[(ii) the Administrator may grant a waiver permitting such source a period of up to two years after the effective date of a standard to comply with the standard, if he finds that such period is necessary for the installation of controls and that steps will be taken during the period of the waiver to assure that the health of persons will be protected from imminent endangerment.] *after such date as the Administrator shall establish for each class or category of existing source, which shall provide for compliance as expeditiously as practicable, but in no event later than two years after the effective date of such standard.*

* * * * * * *

PRIMARY NONFERROUS SMELTER ORDERS

SEC. 119. (a)(1) * * *

* * * * * * *

(2)(A) * * *
(2)(B) * * *
(2)(C) * * *

(D) Notwithstanding any other provision of this section, no primary nonferrous smelter for which a State or other entity with properly delegated authority to administer relevant parts of an applicable implementation plan has issued, on or before December 31, 1981, a variance from, and enforcement order to meet, an emission limitation or standard for sulfur oxides contained in an applicable implementation plan shall be eligible for an order under this section which would be in effect after December 31, 1987, unless such enforcement order has been first extended or vacated. Nothing in this section shall be construed as creating a presumption as to whether such enforcement order should be extended or vacated.

* * * * * * *

(b) * * *

(1) * * *

[(2) the requirement of the applicable implementation plan with respect to which the order is issued is an emission limitation or standard for sulfur oxides which is necessary and intended to be itself sufficient to enable attainment and maintenance of national primary and secondary ambient air quality standards for sulfur oxides; and] *(2) the requirement of the applicable implementation plan with respect to which the order is issued is an emission limitation or standard for sulfur oxides which, either alone or together with de minimis use of supplementary controls as provided in subsection (g), is necessary and intended to be sufficient to enable attainment and maintenance of national primary and secondary ambient air quality standards for sulfur oxides; and*

(3) * * *

(c)(1) A second order issued to a smelter under this section shall set forth compliance schedules containing increments of progress which require compliance with the requirement postponed as expeditiously as practicable. The increments of progress shall be limited to requiring compliance with subsection (d) and, in the case of a second order, to procuring, installing, and operating the necessary means of emission limitation as expeditiously as practicable after the Administrator determines such means have been adequately demonstrated to be reasonably available within the meaning of subsection (b)(3). *An order which will be in effect after January 1, 1988, shall be conditioned upon maintaining full operation of whatever continuous emission reduction technology has been installed on such smelter as of January 1, 1988.*

(2) Not in excess of two primary nonferrous smelter orders may be issued under this section to any primary nonferrous smelter. The first such order issued to a smelter shall not result in the postponement of the requirement with respect to which such order is issued beyond January 1, [1983.] *1988.* The second such order shall not result in the postponement of such requirement beyond January 1, [1988.] *1993.*

* * * * * * *

(e)*(1)* At any time during which an order [under this section applies,] *to January 1, 1988, applies,* the Administration may enter upon a public hearing respecting the availability of technology.

Any order under this section shall be terminated if the Administrator determines on the record, after notice and public hearing, that the conditions upon which the order was based no longer exist. If the owner or operator of the smelter to which the order is issued demonstrates that prompt termination of such order would result in undue hardship, the termination shall become effective at the earliest practicable date on which such undue hardship would not result, but in no event later than the date required under subsection (c).

(2) At any time during which an order applies from January 1, 1988, to January 1, 1993, the Administrator may, on his own motion or on a petition showing good cause, enter upon a public hearing respecting the availability of technology, the continuing eligibility of a smelter receiving an order, or circumstances surrounding the issuance of an order. Any order under this section shall be terminated within a reasonable period of time if the Administrator determines on the record, after notice and public hearing, that the conditions upon which the order was based no longer exist. The Administrator may require in the course of any hearing, where necessary, that clearly relevant financial data be provided to the hearing examiner who may disclose it under appropriate protective order.

(f) * * *

(g)(1) Notwithstanding the provisions of section 123(a)(2), in establishing emission limitations for sulfur oxides for primary nonferrous smelters, the effect of the de minimis use of supplementary controls (up to five percent of any calendar year) may be taken into account.

(2) Nothing in paragraph (1) shall be construed to allow any primary nonferrous smelter to maintain a level of continuous control of sulfur oxides emissions that is less than that which presently exists at such smelter.

(3) The Administrator shall conduct a study and report to the Congress not later than five years after the date of enactment of this subsection on the adequacy, reliability, and enforceability of the use by nonferrous smelters of de minimis supplementary controls in meeting the requirements of this Act.

NONCOMPLIANCE PENALTY

SEC. 120. (a)(1)(A) * * *

* * * * * * *

(d)(1) * * *

(2)(A) * * *

(B) the amount of any expenditure made by the owner or operator of that source during any such quarter for the purpose of bringing that source into, and maintaining compliance with, such requirement, *or for the purpose of achieving interim reductions of emissions of the pollutant subject to such requirement by a method approved by the Administrator (or the State, as appropriate) and not inconsistent with the achievement of such requirement,* to the extent that such expenditures have not been taken into account in the calculation of the penalty under subparagraph (A).

To the extent that any expenditure under subparagraph (B) made during any quarter is not subtracted for such quarter from the costs under subparagraph (A), such expenditure may be subtracted for any subsequent quarter from such costs. In no event shall the amount paid be less than the quarterly payment minus the amount attributed to actual [cost of construction.] *costs under subparagraph (B).*

* * * * * * *

LISTING OF CERTAIN UNREGULATED POLLUTANTS

SEC. 122. (a) * * *

* * * * * * *

(d)(1)(A) Not later than sixty days after the date of enactment of the Clean Air Act Amendments of 1982, the Administrator shall identify at least 20 substances or materials for which the Administrator intends to make a decision within two years after such date of enactment on whether to include such substances or materials on the list of hazardous air pollutants established under section 112(b)(1)(A). The Administrator shall include in such identification—

(i) each substance or material for which the Environmental Protection Agency is projected to have completed a health assessment within two years after such date of enactment, and

(ii) each other substance or material under evaluation by the Agency for inclusion on such list of hazardous air pollutants for which the Agency possesses positive data from one or more tests indicating carcinogenicity in humans or other mammals.

(B) Not later than one year after the date of enactment of the Clean Air Act Amendments of 1982, the Administrator shall identify at least 20 substances or materials in addition to those identified in subparagraph (A) for which the Administrator intends to make a decision within five years after such date of enactment on whether to include such substances or materials on the list of hazardous air pollutants established under section 112(b)(1)(A).

(C) In selecting the substances or materials to be identified under subparagraphs (A) and (B), the Administrator shall first consider the substances or materials which the Agency has been evaluating for inclusion on the list of hazardous air pollutants established under section 112(b)(1)(A) and to which reference is made on page 561 of part 3 of the hearings of the United States Senate Committee on Environment and Public works, June 5, 9, 11, and 22, 1981.

(2) The National Toxicology Program, through its Director, shall make such recommendations to the Administrator as may be appropriate for substances or materials which should be identified under paragraph (1) (A) or (B). In addition, the National Toxicology Program, through its Director, shall continue to make recommendations to the Administrator on substances or materials which may be appropriate for inclusion on the list of hazardous air pollutants established under section 112(b)(1)(A).

(3) At the time substances or materials are identified under paragraph (1)(B), the Administrator shall also identify what research, study, or evaluation, if any, is necessary for each substance or mate-

rial to supply information in addition to that already in the possession of the Agency to allow the Administrator to make the determination required by paragraph (4). In cooperation with the National Toxicology Program, the Administrator shall—

(A) establish a schedule for initiating and completing such research, study, or evaluation, enforceable under section 304(a)(2);

(B) identify the agency which will undertake such research, study, or evaluation; and

(C) identify the source and amount of funding which will be made available for such research, study, or evaluation, if funding under section 104(b) or section 111 of Public Law 96-510 is not provided because emissions of such substance or material are not reasonably related to entities contributing to the fund established by title II of such Act.

(4) Within two years after the date of enactment of the Clean Air Act Amendments of 1982 for any substance or material identified under paragraph (1)(A) or within five years after such date of enactment for any substance or material identified under paragraph (1)(B) (including in each case each substance or material recommended under the first sentence of paragraph (2)), based on the information available to the Administrator, the Administrator shall publish a determination that:

(A) the substance or material is a hazardous air pollutant as defined in section 112(a)(1), or

(B) the Administrator does not find that the substance or material is a hazardous air pollutant as defined in section 112(a)(1).

Such determination shall be made after opportunity for the submittal of information from interested parties. The Administrator shall establish a docket for each substance identified under paragraph (1) (A) or (B) in a manner comparable to that provided in section 307(d) (2), (3), (4), and (5). Such determination shall be published together with a statement of the basis for such determination and an identification of the information available to the Administrator.

(5)(A) If the Administrator fails to make the determination required by paragraph (4) for any substance or material identified under paragraph (1) (A) or (B) within the time provided in paragraph (4), such substance or material shall, by operation of law, be included in the list of hazardous air pollutants established under section 112(b)(1)(A). Such substance or material may be removed from such list if the Administrator within one hundred and eighty days of such inclusion and upon petition by an interested party makes the determination provided in paragraph (4)(B). Each substance or material for which the Administrator makes the determination provided in paragraph (4)(A) shall, by operation of law, be included in the list of hazardous air pollutants established under section 112(b)(1)(A).

(B) The identification of a substance or material under paragraph (1) shall not be deemed a presumption that such substance or material is a hazardous air pollutant. The inclusion of a substance or material on the list of hazardous air pollutants by operation of the first sentence of subparagraph (A) shall not be deemed a presumption that such substance or material is a hazardous air pollutant except for the purposes of section 112.

(6) In including any substance or material on the list of hazardous air pollutants established under section 112(b)(1)(A) (including any substance or material included on such list by operation of paragraph (5)(A)), the Administrator shall specify the chemical form or forms of such substance or material which, in the judgment of the Administrator, are determined to be hazardous air pollutants as defined in section 112(a)(1).

STACK HEIGHTS

SEC. 123. (a) * * *

* * * * * * *

(c) Not later than six months after the date of enactment of this section, the Administrator shall, after notice and opportunity for public hearing, promulgate regulations to carry out this section. For purposes of this section, good engineering practice means, with respect to stack heights, the height necessary to insure that emissions from the stack do not result in excessive concentrations of any air pollutant in the [immediate vicinity] *impact area* of the source as a result of atmospheric downwash, eddies, and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles (as determined by the Administrator). For purposes of this section such height shall not exceed two and a half times the height of such source unless the owner or operator of the source demonstrates, after notice and opportunity for public hearing, to the satisfaction of the Administrator, that a greater height is necessary as provided under the preceding sentence. [In no event may the Administrator] *The Administrator may* prohibit any increase in any stack height or restrict in any manner the stack height of any source.

(d) The Administrator shall within one year of enactment complete a review of the emission limits for all existing major sources which have come into existence since 1970 or which have raised the stack height since 1970, in order to determine whether emission limits for such sources are inappropriately based upon modeling credit for stack height above good engineering practice. If emission limits are determined to be inappropriately based, the Administrator shall require the State, within six months, to correct the emission limit to conform with requirements of this section. It shall be the burden of the operator of each such source to demonstrate the correct stack height credit to be used in determining proper emission limits.

* * * * * * *

INTERSTATE POLLUTION ABATEMENT

SEC. 126. (a) Each applicable implementation plan shall—

(1) require each major proposed new (or modified) source—

(A) subject to part C (relating to significant deterioration of air quality) or

(B) which may significantly contribute to levels of air pollution [in excess of the national ambient air quality standards] in any air quality control region outside the

State in which such source intends to locate (or make such modification),

to provide written notice to all nearby States the air pollution levels of which may be affected by such source at least sixty days prior to the date on which commencement of construction is to be permitted by the State providing notice, and

(2) identify all major existing stationary sources which may have the impact described in paragraph (1) with respect to new or modified sources and provide notice to all nearby States of the identity of such sources not later than three months after the date of enactment of the Clean Air Act Amendments of 1977.

(b) Any State or political subdivision may petition the Administrator for a finding that any major source *or group of sources* emits or would emit any air pollutant in violation of the prohibition of section [110(a)(2)(E)(i).] *110(a)(2)(E) or this section.* Within 60 days after receipt of any petition under this subsection and after public hearing, the Administratior shall make such a finding or deny the petition.

(c) Notwithstanding any permit which may have been granted by the State in which the source is located (or intends to locate), it shall be a violation of *this section and* the applicable implementation plan in such State—

(1) for any major proposed new (or modified) source with respect to which a finding has been made under subsection (b) to be constructed or to operate in violation of the prohibition of section [110(a)(2)(E)(i),] *110(a)(2)(E) or this section,* or

(2) for any major existing source to operate more than three months after such finding has been made with respect to it *or to continue operation in violation of subsection (d) more than two years after the date of such finding without the installation of reasonably available control technology.*

The Administrator may permit the continued operation of a source referred to in paragraph (2) beyond the expiration of such three-month period if such source complies with such emisson limitations and compliance schedules (containing increments of progress) as may be provided by the Administrator to bring about compliance with the requirement contained in section [110(a)(2)(E)(i)] *110(a)(2)(E) or this section* as expeditiously as practicable, but in no case later than three years after the date of such finding. Nothing in the preceding sentence shall be construed to preclude any such source from being eligible for an enforcement order under section 113(d) after the expiration of such period during which the Administrator has permitted continuous operation.

(d) Emission of an air pollutant which, by itself or in combination, reaction, or transformation, adversely affects the public health or welfare of another State, is in violation of this section.

* * * * * * *

PART B—OZONE PROTECTION

SEC. 150. * * *

SEC. 151. * * *

DEFINITIONS

SEC. 152. * * *

(1) * * *

(2) the term "stratosphere" means that part of the atmosphere above the tropopause[.]; *and*

(3) the term "chlorofluorocarbon" means any of the halocarbon compounds commonly known as CFC-11, CFC-12, CFC-113, CFC-114, CFC-115, and CFC-22, as well as any other simple saturated compounds of carbon, chlorine, fluorine, and optionally hydrogen containing not more than four carbon atoms.

STUDIES BY ENVIRONMENTAL PROTECTION AGENCY

SEC. 153. (a) * * *

(b) * * *

(c) The Administrator shall give priority in the studies and research authorized by subsections (a) and (b) to increasing actual measurements of stratospheric ozone and to improving methods of identifying potential trends in actual ozone measurements. The Administrator shall give priority in the studies and research authorized by the remaining sections or subsections of this part to identifying, predicting, and quantifying the effects of stratosphere changes on human health, biological and crop productivity and mortality, and ecosystem (including aquatic ecosystems) alterations.

[(c)]*(d)*(1) The studies and research conducted under this section may be undertaken with such cooperation and assistance from univesities and private industry as may be available. Each department, agency, and instrumentality of the United States having the capability to do so is authorized and encouraged to provide assistance to the Administrator in carrying out the requirements of this section, including (notwithstanding any other provision of law) any services which such department, agency, or instrumentality may have the capability to render or obtain by contract with third parties.

(2) The Administrator shall encourage the cooperation and assistance of other nations in carrying out the studies and research under this section. The Administrator is authorized to cooperate with and support similar research efforts of other nations.

[(d)]*(e)*(1) The Administrator shall undertake to contract with the National Academy of Sciences to study the state of knowledge and the adequacy of research efforts to understand (A) the effects of all substances, practices, processes, and activities which may affect the stratosphere, especially ozone in the stratosphere; (B) the health and welfare effects of modifications of the stratosphere, especially ozone in the stratosphere; and (C) methods of control of such substances, practices, processes, and activities including alternatives, costs, feasibility, and timing. The Academy shall make a report of its findings by January 1, 1978.

(2) The Administrator shall make available to the Academy such information in the Administrator's possession as is needed for the purposes of the study provided for in this subsection.

(f) The Administrator shall undertake to contract annually with the National Academy of Sciences to—

(1) continue the review and research efforts heretofore conducted by the Academy pursuant to subsection (e);

(2) determine if changes in the concentration of ozone in the stratosphere have occurred or are occurring and, if so, the extent, nature, and causes of any such changes;

(3) investigate whether there are probable or possible effects on health and welfare from any such changes; and

(4) report all findings as well as any uncertainties associated with such findings.

(g) The National Academy of Sciences, in consultation with the National Aeronautics and Space Administration and the Administrator of the National Oceanic and Atmospheric Administration, shall, not later than two years after the date of enactment of the Clean Air Act Amendments of 1982 and annually thereafter report to the Administrator and the Congress all findings concerning actual or potential alteration of the concentration of ozone in the stratosphere and the causes of such alteration, and the implications and uncertainties associated with such findings. Copies of such reports shall be made available to the public.

[(e)**]***(h)* The Secretary of Labor shall study and transmit a report to the Administrator and the Congress not later than six months after date of enactment, with respect to the losses and gains to industry and employment which could result from the elimination of the use of halocarbons in aerosol containers and for other purposes. Such report shall include recommended means of alleviating unemployment or other undesirable economic impact, if any, resulting therefrom.

[(f)**]***(i)*(1) The Administrator shall establish and act as Chairman of a Coordinating Committee for the purposes of insuring coordination of the efforts of other Federal agencies carrying out research and studies related to or supportive of the research provided for in subsections (a) and (b) and section 154.

(2) Members of the Coordinating Committee shall include the appropriate official responsible for the relevant research efforts of each of the following agencies:

(A) the National Oceanic and Atmospheric Administration,

(B) the National Aeronautics and Space Administration,

(C) the Federal Aviation Administration,

(D) the Department of Agriculture,

(E) the National Cancer Institute,

(F) the National Institute of Environmental Health Sciences,

(G) the National Science Foundation, and the appropriate officials responsible for the relevant research efforts of such other agencies carrying out related efforts as the Chairman shall designate. A representative of the Department of State shall sit on the Coordinating Committee to encourage and facilitate international coordination.

(3) The Coordinating Committee shall review and comment on plans for, and the execution and results of, pertinent research and studies. For this purpose, the agencies named in or designated under paragraph (2) of this subsection shall make appropriate and timely reports to the Coordinating Committee on plans for and the execution and results of such research and studies.

(4) The Chairman may request a report from any Federal Agency for the purpose of determining if that agency should sit on the Coordinating Committee.

[(g)]*(j)* Not later than January 1, 1978, and biennially thereafter, the Administrator shall report to the appropriate committees of the House and the Senate, the results of the studies and research conducted under this section and the results of related research and studies conducted by other Federal agencies.

RESEARCH AND MONITORING BY OTHER AGENCIES

Sec. 154. (a) * * *

* * * * * * *

(g) The research and monitoring programs provided for in this section shall be continued and expanded, with particular emphasis given to determining whether changes in the concentration of ozone in the stratosphere have occurred or are occurring and, if so, the extent, nature, causes, and effects of any such changes and any uncertainties associated therewith.

* * * * * * *

INTERNATIONAL COOPERATION

Sec. 156. *(a)* The President shall undertake to enter into international agreements to foster cooperative research which complements studies and research authorized by this part, and to develop standards and regulations which protect the stratosphere consistent with regulations applicable within the United States. For these purposes the President through the Secretary of State and the Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, shall negotiate multilateral treaties, conventions, resolutions, or other agreements, and formulate, present, or support proposals at the United Nations and other appropriate international forums and shall report to the Congress periodically on efforts to arrive at such agreements.

(b) The President shall, no later than two years after the date of the enactment of the Clean Air Act Amendments of 1982 and annually thereafter, report to the Congress on the status of actions undertaken to reach an international agreement or agreements pursuant to subsection (a). The reports shall include information as to the nature, extent, and implications of any threat to the concentration of ozone in the stratosphere and the appropriate regulatory action proposed or taken by such countries pursuant to such an agreement or agreements to provide protection against the depletion of ozone in the stratosphere. Copies of such reports shall be made available to the public.

REGULATIONS

Sec. 157. [(a) If at any time prior to the submission of the final report referred to in section 155 in the Administrator's judgment, any substance, practice, process, or activity may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, and such effect may reasonably be anticipated to endanger public health or welfare, the Administrator shall promptly promulgate regulations respecting the control of such substance, practice, process, or activity, and shall simultaneously submit notice of the promulgation of such regulation to the Congress.]

[(b)]*(a)* Upon submission of the final report referred to in section 155, and after consideration of the reseach and study under sections 153 and 154 and, consultation with appropriate Federal agencies and scientific entities, the Administrator shall propose regulations for the control of any substance, practice, process, or activity (or any combination thereof) which in his judgment may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, if such effect in the stratosphere may reasonably be anticipated to endanger public health or welfare. Such regulations shall take into account the feasiblity and the costs of achieving such control. *In promulgating such regulations, the Administrator shall take into account any unresolved scientific questions and the availability of suitable alternative products. The Administrator shall specifically consider the health implications of chlorofluorocarbon chemical substitutes and implications of ozone depletion for the public health and welfare.* Such regulations may exempt medical use products for which the Administrator determines there is no suitable substitute. Not later than three months after proposal of such regulations the Administrator shall promulgate such regulations in final form. From time to time, and under the same procedures, the Administrator may revise any of the regulations submitted under this subsection.

(b) In proposing any regulation of chloroflurorocarbons pursuant to this section, the Administrator shall first determine chlorofluorocarbons are contributing to depletion of the stratospheric ozone which is occurring, or is likely to occur, at a rate that may reasonably be anticipated to endanger the public health or welfare, or first report that an agreement relating to chlorofluorocarbons has been entered into pursuant to section 156.

* * * * * *

PART C—PREVENTION OF SIGNIFICANT DETERIORATION OF AIR QUALITY

SUBPART 1

PURPOSES

SEC. 160. The purposes of this part are as follows:

(1) to protect public health and welfare from [any] actual or potential adverse [effect] *effects* which in the Administrator's judgment may reasonably be anticipated to occur from air pollution or from exposures to pollutants in other media, (which pollutants originate as emissions to the ambient air), notwithstanding attainment and maintenance of all national ambient air quality standards;

* * * * * * *

INCREMENTS AND CEILINGS

SEC. 163. (a) In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of any maximum allowable increase (except an allowable increase specified under [section 165(d)(2)(C)(iv))] *section 165(d)(2)(C)(vi))* for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.

(b)(1) * * *

(2)*(A)* For any class II area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Maximum allowable increase

Pollutant	*(Micrograms per cubic meter)*
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	512

(B) In demonstrating compliance with the twenty-four-hour or three-hour maximum allowable increases established by this paragraph, the owner or operator of a major emitting facility must demonstrate only that such facility will not cause such maximum allowable increases to be exceeded during more than one such period per year. Compliance with the three-hour maximum allowable increase established by this paragraph shall not be required for areas within the State of Alaska.

[(3) For any class III area, the maximum allowable increase in concentrations of sulfur dioxide and particulate matter over the baseline concentration of such pollutants shall not exceed the following amounts:

Maximum allowable increase

Pollutant	*(Micrograms per cubic meter)*
Particulate matter:	
Annual geometric mean	37
Twenty-four-hour maximum	75
Sulfur dioxide:	
Annual arithmetic mean	40
Twenty-four-hour maximum	182
Three-hour maximum	700]

[(4)]*(3)* The maximum allowable concentration of any air pollutant in any area to which this part applies shall not exceed a concentration for such pollutant for each period of exposure equal to—

(A) the concentration permitted under the national secondary ambient air quality standard, or

(B) the concentration permitted under the national primary ambient air quality standard,

whichever concentration is lowest for such pollutant for such period of exposure.

(c)(1) * * *

(A) * * *

(B) * * *

(C) concentrations of particulate matter *(i)* attributable to the increase in emissions from construction or other temporary emission-related activities, *or (ii) attributable to emissions composed of soil which is uncontaminated by pollutants resulting from industrial activity, including emissions of such uncontaminated soil from roads, wind erosion of exposed soil surfaces and soil storage piles, and other activities in which soil is either removed, stored, transported, or redistributed, and*

(D) * * *

(c)(2) * * *

(c)(3) * * *

(4) In any State in which the Administrator is the permitting authority for this part, the Administrator may, and upon petition by the Governor shall, provide notice, conduct a public hearing, and, with the concurrence of the Governor, may issue orders or promulgate rules under paragraph (1).

AREA REDESIGNATION

SEC. 164. (a) Except as otherwise provided under subsection **[**(c)**]** *(d)*, a State may redesignate such areas as it deems appropriate as class I areas. The following areas may be redesignated only as class I or II:

(1) an area which exceeds ten thousand acres in size and is a national monument, a national primitive area, a national preserve, a national recreation area, a national wild and scenic river, a national wildlife refuge, a national lakeshore or seashore, and

(2) a national park or national wilderness area established after the date of enactment of this Act which exceeds ten thousand acres in size.

[Any area (other than an area referred to in paragraph (1) or (2) or an area established as class I under the first sentence of section 162(a)) may be redesignated by the State as class III if—

[(A) such redesignation has been specifically approved by the Governor of the State, after consultation with the appropriate Committees of the legislature if it is in session or with the leadership of the legislature if it is not in session (unless State law provides that such redesignation must be specifically approved by State legislation) and if general purpose units of local government representing a majority of the residents of the area so redesignated enact legislation (including for such units of local government resolutions where appropriate) concurring in the State's redesignation;

[(B) such redesignation will not cause, or contribute to, concentrations of any air pollutant which exceed any maximum allowable increase or maximum allowable concentration permitted under the classification of any other area; and

[(C) such redesignation otherwise meets the requirements of this part.

Subparagraph (A) of this paragraph shall not apply to area redesignations by Indian tribes.]

[(b)(1)(A) Prior to redesignation of any area under this part, notice shall be afforded and public hearings shall be conducted in areas proposed to be redesignated and in areas which may be affected by the proposed redesignation. Prior to any such public hearing a satisfactory description and analysis of this health, environmental, economic, social, and energy effects of the proposed redesignation shall be prepared and made available for public inspection and prior to any such redesignation, the description and analysis of such effects shall be reviewed and examined by the redesignating authorities.

[(B) Prior to the issuance of notice under subparagraph (A) respecting the redesignation of any area under this subsection, if such area includes any Federal lands, the State shall provide written notice to the appropriate Federal land manager and afford adequate opportunity (but not in excess of 60 days) to confer with the State respecting the intended notice of redesignation and to submit written comments and recommendations with respect to such intended notice of redesignation. In redesignating any area under this section with respect to which any Federal land manager has submitted written comments and recommendations, the State shall publish a list of any inconsistency between such redesignation and such recommendations and an explanation of such inconsistency (together with the reasons for making such redesignation against the recommendation of the Federal land manager).

[(C) The Administrator shall promulgate regulations not later than six months after date of enactment of this part, to assure, insofar as practicable, that prior to any public hearing on redesignation of any area, there shall be available for public inspection any specific plans for any new or modified major emitting facility which may be permitted to be constructed and operated only if the area in question is designated or redesignated as class III.

[(2) The Administrator may disapprove the redesignation of any area only if he finds, after notice and opportunity for public hearing, that such redesignation does not meet the procedural requirements of this section or is inconsistent with the requirements of section 162(a) or of subsection (a) of this section. If any such disapproval occurs, the classification of the area shall be that which was in effect prior to the redesignation which was disapproved.]

(b)(1) Not later than eighteen months after the date of enactment of the Clean Air Act Amendments of 1982, each State shall submit to the Administrator an area classification plan. Such plan shall include the following—

(A) a list of all areas in such State classified as class I, which shall include all areas within such State referred to in section 162(a) and all other areas determined by the State to warrant such classification;

(B) a list of all areas in such State classified as class II, which shall include all areas within such State referred to in subsection (a) which are not identified as class I under subparagraph (A) and all other areas determined by the State to warrant such classification; and

(C) identification of all areas within such State to which this part applies and which are not listed in subparagraphs (A) or (B). Such areas shall not be subject to the maximum allowable increases specified under sections 163 and 165(d)(2).

(2) For any areas identified under subparagraph (C) of the preceding subsection, the plan shall include the following—

(A) a comprehensive assessment of air quality;

(B) long-term (at least twenty years) air quality goals and a procedure for periodic review of such goals;

(C) projections of emissions growth which would be consistent with the attainment of the goals established pursuant to subparagraph (B);

(D) a requirement that all proposed major emitting facilities which will emit or have the potential to emit five hundred tons or more per year of particulate matter or one thousand tons or more per year of any air pollutant be subject to review and be determined to be consistent with the attainment of the goals established pursuant to subparagraph (B) prior to the issuance of a permit under section 165; and

(E) any other requirements which the State deems necessary to attain the goals established pursuant to subparagraph (B).

(3) Any plan submitted under this subsection, or any revision of such a plan, shall be considered a revision of the applicable State implementation plan and subject to the requirements of section 110(a)(3).

(4) Until the plan required under this subsection to be submitted by a State is either approved or deemed approved pursuant to section 110(a)(3), all areas within such State which are class II areas immediately prior to the date of enactment of the Clean Air Act Amendments of 1982 shall continue to be subject to the maximum allowable increases prescribed for class II areas.

(c) Prior to the submittal of such plan, notice shall be afforded, and public hearings shall be conducted in at least three different locations in the State. Prior to such hearings, the proposed classification plan shall be available for inspection. Affected local officials and Federal Land Managers shall be notified and provided with the opportunity to comment.

[(c)]*(d)* Lands within the exterior boundaries of reservations of federally recognized Indian tribes may be redesignated only by the appropriate Indian governing body. Such Indian governing body shall be subject in all respect to the provisions of subsection [(e)] *(f).*

[(d)]*(e)* The Federal Land Manager shall review all national monuments, primitive areas, and national preserves, and shall recommend any appropriate areas for redesignation as class I where air quality related values are important attributes of the area. The Federal Land Manager shall report such recommendations, within supporting analysis, to the Congress and the affected States within one year after enactment of this section. The Federal Land Manager shall consult with the appropriate States before making such recommendations.

[(e)] *(f)* If any State affected by the redesignation of an area by an Indian tribe or any Indian tribe affected by the redesignation of an area by a State disagrees with such redesignation of any area, or if a permit is proposed to be issued for any new major emitting facility proposed for construction in any State which the Governor of an affected State or governing body of an affected Indian tribe determines will cause or contribute to a cumulative change in air quality in excess of that allowed in this part within the affected State or tribal reservation, the Governor or Indian ruling body may request the Administrator to enter into negotiations with the parties involved to resolve such dispute. If requested by any State or Indian tribe involved, the Administrator shall make a recommendation to resolve the dispute and protect the air quality related values of the lands involved. If the parties involved do not reach agreement, the Administrator shall resolve the dispute and his determination, or the results of agreements reached through other means, shall become part of the applicable plan and shall be enforceable as part of such plan. In resolving such disputes relating to area redesignation, the Administrator shall consider the extent to which the lands involved are of sufficient size to allow effective air quality management or have air quality related values of such an area.

PRECONSTRUCTION REQUIREMENTS

SEC. 165. (a) * * *

* * * * * * *

(3) the owner or operator of such facility demonstrates, as required pursuant to section 110(j), that emissions from construction or operation of such facility will not cause, or contribute to, air pollution in excess of any (A) maximum allowable increase or maximum allowable concentration for any pollutant in any [area to which this part applies more than one time per year,] *class I or class II area, except as provided in section 163(a),* (B) national ambient air quality standard in any air quality control region, or (C) any other applicable emission standard or standard of performance under this Act;

* * * * * * *

(6) there has been an analysis of any air quality impacts projected for the area as a result of growth associated with such facility; *and*

(7) the person who owns or operates, or proposes to own or operate, a major emitting facility for which a permit is required under this part agrees to conduct such monitoring as may be necessary to determine the effect which emissions from any such facility may have, or is having, on air quality in any area which may be affected by emissions from such [source; and] *facility.*

[(8) in the case of a source which proposes to construct in a class III area, emissions from which would cause or contribute to exceeding the maximum allowable increments applicable in a class II area and where no standard under section 111 of this Act has been promulgated subsequent to enactment of the Clean Air Act Amendments of 1977, for such source category, the Administrator has approved the determination of best available technology as set forth in the permit.]

(b) * * *

(c) Any completed permit application under section 110 for a major emitting facility in any area to which this part applies shall be granted or denied not later than one year after the date of filing of such completed application, *in the case of a facility which will emit or have the potential to emit five hundred tons and more per year of particulate matter or one thousand tons or more per year of any other pollutant subject to regulation under this Act, or not later than six months after such date, in the case of a facility which will emit or have the potential to emit less than five hundred tons per year of particulate matter and less than one thousand tons per year of every other pollutant subject to regulation under this Act. Within two months after the filing of such a permit application, the person filing such permit shall be notified whether the permit application is complete, and, if not, what additional information is required to complete the application.*

(d)(1) Each State shall transmit to the Administrator a copy of each permit application relating to a major emitting facility [received by such State and provide notice to the Administrator of every action related to the consideration of such permit.] *which—*

(A) will emit, or have the potential to emit, five hundred tons or more per year of particulate matter or one thousand tons or more per year of any other air pollutant; or

(B) will emit, or have the potential to emit, pollutants affecting (as determined under regulations promulgated by the Administrator) air quality in any class I area,

and provide notice to the Administrator of the final action taken on such permit.

(2)(A) * * *

(B) The Federal Land Manager and the Federal official charged with direct responsibility for management of such lands shall have an affirmative responsibility *to identify and* to protect the air quality related values (including visibility *within such area*), of any such lands within a class I area [and to consider, in consultation with the Administrator, whether a proposed major emitting facility will have an adverse impact on such values.] *to file a notice, and supporting information, to the permitting authority in any case in which emmissions from a proposed major emitting facility may cause or contribute to an adverse impact on the air quality-related values (including visibility) of such area, and to conduct monitoring of the air quality of such area and gather such other information (including information on the effects of air pollution on the air quality-related values of such areas) as is necessary to—*

"(i) assist in determining baseline concentrations in such areas, and

"(ii) otherwise carry out the Federal Land Manager's responsibilities with respect to the air quality-related values of such area.

(C)(i) * * *

(ii) In any case where the Federal Land Manager demonstrates to the satisfaction of the State that the emissions from such facility will have an adverse impact on the air quality-related values (including visibility *within such area*) of such lands, notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area, a permit shall not be issued.

(iii) In any case in which the Federal Land Manager files with a State a notice alleging that emissions from a proposed major emitting facility may cause or contribute to a significant impairment of visibility within an integral vista (as defined in section 169A(h)(8)) a permit may be issued for the facility only if the public hearing provided for in section 165(a)(2) includes an opportunity for the Federal Land Manager and other interested persons to appear and comment on any impact of the facility on the integral vista and if the State determines that—

(I) the facility would not cause a significant impairment of visibility within the integral vista, or

(II) the issuance of the permit would be in the public interest, notwithstanding any significant impairment of visibility within the integal vista.

(iv) In any case in which the Administrator is the permitting authority under this part, the Federal Land Manager shall provide the Governor with a copy of any notice filed with the Administrator under clause (iii), and, in making a determination under subclause (iii)(II), the Administrator shall follow any recommendation of the Governor to the extent that such recommendation is consistent with other requirements of this Act.

[(iii)]*(v)* In any case where the owner or operator of such facility demonstrates to the satisfaction of the Federal Land Manager, and the Federal Land Manager so certifies, that the emissions from such facility will have no adverse impact on the air quality-related values of such lands (including visibility) notwithstanding the fact that the change in air quality resulting from emissions from such facility will cause or contribute to concentrations which exceed the maximum allowable increases for class I areas, the State may issue a permit.

[(iv)]*(vi)* In the case of a permit issued pursuant to clause [(iii),] *(v),* such facility shall comply with such emission limitations under such permit as may be necessary to assure that emissions of sulfur oxides and particulates from such facility, will not cause or contribute to concentrations of such pollutant which exceed the following maximum allowable increases over the baseline concentration for such pollutants:

Maximum allowable increase

	(Micrograms per cubic meter)
Particulate matter:	
Annual geometric mean	19
Twenty-four-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
Twenty-four-hour maximum	91
Three-hour maximum	325

(D)(i) In any case where the owner or operator of a proposed major emitting facility who has been denied a certification under subparagraph (C)[(iii)]*(v)* demonstrates to the satisfaction of the Governor, after notice and public hearing, and the Governor finds, that the facility cannot be constructed by reason of any maximum allowable increase for sulfur dioxide for periods of twenty-four hours or less applicable to any class I area and, in the case of Federal mandatory class I areas, that a variance under this clause will not adversely affect the air quality related values of the area (including visibility *within such area*), the Governor, after consideration of the Federal Land Manager's recommendation (if any) and subject to his concurrence, may grant a variance from such maximum allowable increase. If such variance is granted, a permit may be issued to such source pursuant to the requirements of this subparagraph.

* * * * * * *

(e)(1) * * *

(2) [Effective one year after date of enactment of this part,] *If deemed necessary or appropriate by the State,* the analysis required by this subsection shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part. [Such data shall be gathered over a period of one calendar year preceding the date of application for a permit under this part unless the State, in accordance with regulations promulgated by the Administrator, determines that a complete and adequate analysis for such purposes may be accomplished in a shorter period.] The results of such analysis shall be available at the time of the public hearing on the application for such permit.

* * * * * * *

DEFINITIONS

SEC. 169 * * *

(1) * * *

(2)(A) * * *

(B) * * *

(C) The term "construction" when used in connection with any source or facility, includes the modification (as defined in [section 111 (a))] *section 110(a)(4)(B)),* of any source or facility.

(3)*(A)* The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act.

(B) Before determining under section 165(a)(4) the best available control technology to be achieved by a proposed major emitting facility which will emit or have the potential to emit five hundred tons or more per year of particulate matter or one thousand tons or more per year of any other pollutant subject to regulation under this Act, the permitting authority shall review the emission limitations with respect to such pollutant achieved in practice by or required under this Act (by a permit issued before the application for the permit for the proposed facility is complete) for major emitting facilities of the same size, type, and class (as determined by the State in accordance with any applicable regulations promulgrated by the Administrator), and shall identify the most stringent of such emission limitations. The permitting authority shall first consider the most stringent emission limitation identified under the preceding sentence in determining the best available control technology to be achieved by a major emitting facility referred to in the preceding sentence.

(C) If the permitting authority requires an emission limitation for the proposed facility which is less stringent than the emission limitation identified under subparagraph (B), the permitting authority shall provide information to the public regarding such decision.

(D) For the purposes of subparagraph (B), the permitting authority shall be required to review emission limitations, and to identify the most stringent emission limitation achieved by, or required under, a permit issued for major emitting facilities only if—

(i) the facilities are located within the State (or, if the Administrator is the permitting authority, within the administrative region of the Environmental Protection Agency) in which the proposed facility will be located;

(ii) the emission limitation is described in a guidance document published and distributed to the permitting authority in accordance with section 108(g); or

(iii) the permitting authority has received actual notice of the emission limitation by a comment submitted to the permitting authority during the consideration of the permit for the proposed facility or through any other means.

(4) The term "baseline concentration" means, with respect to a pollutant, the ambient concentration levels which exist [at the time of the first application for a permit in an area subject to this part,] *in any area subject to this part at the time of the first application for a permit under this part for a major emitting facility which affected or will affect such levels (or, in an area redesignated as class I after the date of enactment of the Clean Air Act Amendments of 1982, at the time of the first such application following the date of redesignation),* based on air quality data available in the Environmental Protection Agency or a State air pollution control agency, *on data submitted by a Federal Land Manager,* and on such monitoring data as the permit applicant is required to submit. Such ambient concentration levels shall take into account all pro-

jected emissions in, or which may affect, such area from any major emitting facility on which construction commenced prior to January 6, 1975, *(or, with respect to an area redesignated as class I after the date of enactment of the Clean Air Act Amendments of 1982, prior to the date of redesignation)* but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, *(or, with respect to an area redesignated as class I after the date of enactment of the Clean Air Act Amendments of 1982, after the date of redesignation)* shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

SUBPART 2

VISIBILITY PROTECTION FOR FEDERAL CLASS I AREAS

SEC. 169A. (a)(1) Congress hereby declares as a national goal the prevention of any future, and the remedying of any existing, *significant* impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.

* * * * * * *

(b) * * *

(1) * * *

(2) require each applicable implementation plan for a State in which any area listed by the Administrator under subsection (a)(2) is located (or for a State the emissions from which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area) to contain such emission limits, schedules of compliance and other measures as may be necessary to make reasonable progress toward meeting the national goal specified in subsection (a), including—

(A) except as otherwise provided pursuant to subsection (c), a requirement that each major stationary source which is in existence on the date of enactment of this section, but which has not been in operation for more than fifteen years as of such date, and which, as determined by the State (or the Administrator in the case of a plan promulgated under section 110(c)) emits any air pollutant which may reasonably be anticipated to cause or contribute to any impairment of visibility in any such area, shall procure, install, and operate, as expeditiously as practicable (and maintain thereafter) the best available retrofit technology, as determined by the State (or the Administrator in the case of a plan promulgated under section 110(c)) for controlling emissions from such source for the purpose of eliminating or reducing any *significant* such impairment, and

(B) * * *

* * * * * * *

(d)(1) This section shall not be construed to require, and the Administrator may not take any action under this section to require, any existing source to procure, install, or operate any retrofit technology to prevent or remedy impairment of visibility within an inte-

gral vista unless the Administrator has provided notice to the Governor of the State in which the source is located of the proposed action and the Governor does not, within a reasonable time as specified by the Administrator, notify the Administrator that the Governor has determined that, notwithstanding any such impairment, it would not be in the public interest to take such action.

(2) Paragraph (1) shall not affect the requirements of this section to the extent they apply to impairment of visibility within the boundaries of a mandatory class I Federal area.

[(d)**]***(e)* * * *

[(e)**]***(f)* * * *

[(f)**]***(g)* * * *

[(g)**]***(h)* * * *

(1)–(5) * * *

(6) the terms "visibility impairment" and "impairment of visibility" shall include reduction in visual range and atmospheric discoloration; **[**and**]**

(7) the term "major stationary source" means the following types of stationary sources with the potential to emit 250 tons or more of any pollutant; fossil-fuel fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (thermal dryers), kraft pulp mills, Portland Cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production facilities, chemical process plants, fossil-fuel boilers of more than 250 million British thermal units per hour heat input, petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels, taconite ore processing facilities, glass fiber processing plants, charcoal production facilities**[**.**]***; and*

(8) the term "integral vista" means any of the integral vistas included in appendix 1 of the notice by the Department of the Interior published in the Federal Register of January 15, 1981, at pages 3646 through 3657.

PART D—PLAN REQUIREMENTS FOR NONATTAINMENT AREAS

DEFINITIONS

SEC. 171. * * *

(1) * * *

(2) The term "nonattainment area" means, for any air pollutant an area which is shown by monitored data or which is calculated by air quality modeling (or other methods determined by the Administrator to be reliable) to exceed any national ambient air quality standard for such pollutant, *discounting emissions from an immediately adjacent area in a foreign country for which the Administrator has not made the determination provided under section*

115(c). Such term includes any area identified under subparagraphs (A) through (C) of section 107(d)(1).

[(3) The term "lowest achievable emission rate" means for any source, that rate of emissions which reflects—

[(A) the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or

[(B) the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent.

In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance.]

(3)(A) The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major stationary source, which the permitting authority, on a case-by-case basis, taking into account energy, environmental and economic impacts and other costs, determines is achievable for such source through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of "best available control technology" result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112.

(B) Before determining under section 173 the best available control technology to be achieved by a proposed major stationary source which will emit or have the potential to emit five hundred tons or more per year of particulate matter or one thosuand tons or more per year of any other pollutant subject to regulation under this Act, the permitting authority shall review the emission limitations with respect to such pollutant achieved in practice by or required under this Act by a permit issued before the application for the permit for the proposed facility is complete for major stationary sources of the same size, type, and class (as determined by the State in accordance with any applicable regulations promulgated by the Administrator), and shall identify the most stringent of such emission limitations. The permitting authority shall first consider the most stringent emission limitation identified under the preceding sentence in determining the best available control technology to be achieved by a major stationary source referred to in the preceding sentence.

(C) For any major stationary source emitting a pollutant (or precursor of such pollutant) for which the area in which such source will be located is nonattainment, the permitting authority shall establish an emission limitation for such pollutant which is at least as stringent as the more stringent of the following:

(i) the most stringent emission limitation shown by an adequate operating history to have been achieved in practice by a major stationary source of the same size, type, and class (as determined by the State in accordance with any applicable regula-

tions promulgated by the Administrator) within the same Federal administrative region; or

(ii) unless the permitting authority determines in accordance with subparagraph (A) that such emission limitation is not achievable for the proposed source, the most stringent emission limitation included in a permit issued pursuant to this Act for a major stationary source of the same size, type, and class (as determined by the State in accordance with any applicable regulations promulgated by the Administrator) within the same Federal administrative region before the application for the permit for the proposed source is complete.

(D) If the permitting authority requires an emission limitation for the proposed source which is less stringent than the emission limitation identified under subparagraph (B) or (C)(ii), the permitting authority shall provide information to the public regarding such decision.

(E) For the purposes of subparagraphs (B) and (C), the permitting authority shall be required to review emission limitations and to identify the most stringent emission limitation achieved by, or required under, a permit issued for major stationary sources only if—

(i) the sources are located within the State (or, if the Administrator is the permitting authority, within the administrative region of the Environmental Protection Agency) in which the proposed source will be located;

(ii) the emission limitation is described in a guidance document published and distributed to the permitting authority in accordance with section 108(g); or

(iii) the permitting authority has received actual notice of the emission limitation by a comment submitted to the permitting authority during the consideration of the permit for the proposed source or through any other means.

(4) * * *

(5) The term "major stationary source" includes each discrete operation, unit or other activity which produces or may produce emissions of one hundred tons or more per year of a pollutant or a precursor of a pollutant for which the area in which such source is or will be located is a nonattainment area.

(6) The term "vehicle emission control inspection and maintenance program" means a program to reduce in-use emissions from motor vehicles in an urbanized area referred to in section 172(b)(12) which—

(A)(i) requires emissions testing and necessary adjustment, repair, or maintenance of motor vehicles regularly operating in such area, and

(ii) is at least as effective in reducing such emissions as the programs fully approved by the Administrator under the Clean Air Act Amendments of 1977, or

(B) in the case of an area which is subject to section 172(b)(12)(B) but is not subject to section 172(b)12(A) and in which motor vehicles emit less than one-third of the total hydrocarbon emissions emitted by all sources in the area (according to the emissions inventory approved by the Administrator as meeting the requirements of section 172(b)(4) for the plan revi-

sion required under the Clean Air Act Amendments of 1977 to be submitted to the Administrator before July 1, 1982)—

(i) requires emissions testing or the direct inspection of motor vehicle emissions control systems or components for each light duty motor vehicle of each model year covered by such program regularly operating in such area at least annually and necessary adjustment, repair, or replacement, and

(ii) is sufficient, when considered together with the other measures in the implementation plan, to provide for attainment of the national primary ambient air quality standard for photochemical oxidants as expeditiously as practicable but not later than the applicable date established under section 172(a)(2).

NONATTAINMENT PLAN PROVISIONS

SEC. 172. (a)(1)*(A)* * * *

(B) In any nonattainment area for sulfur dioxide, particulate matter, or nitrogen dioxide for which the State demonstrates to the satisfaction of the Administrator that attainment of such national primary ambient air quality standard is not possible prior to December 31, 1982, despite the implementation of an approved or promulgated implementation plan containing all reasonably available control measures, the date for attainment of such standard under this subsection shall be not later than December 31, 1985. Such extension shall be on the condition that—

(i) the State certifies to the Administrator prior to December 31, 1982, that attainment of such standard is not possible prior to December 31, 1982, despite implementation of all reasonably available control measures, and submits to the Administrator an accompanying explanation of the reasons therefor,

(ii) the State agrees in writing not to modify so as to make less stringent or to delay any emission limitation or other requirement affecting emissions of the approved or promulgated implementation plan; and

(iii) the State submits prior to December 31, 1984, a revised implementation plan complying with this section and providing for attainment of such standard not later than December 31, 1985.

Failure to submit a revised implementation plan in accordance with clause (iii) or action which in the judgment of the Administrator constitutes a failure to carry out the agreement required by clause (ii) shall immediately terminate any extension under this subparagraph.

(2)*(A)* In the case of the national primary ambient air quality standard for photochemical oxidants or carbon monoxide (or both) if the State demonstates to the satisfaction of the Administrator (on or before the time required for submission of such plan) that such attainment is not possible in an area with respect to either or both of such pollutants within the period prior to December 31, 1982, despite the implementation of all reasonably available measures, such provisions shall provide for the attainment of the national primary standard for the pollutant (or pollutants) with respect to which such demonstration is made, as expeditiously as practicable but not later than December 31, 1987. *An extension may be made for a State under the provisions of this subparagraph, notwithstanding a failure to submit such demonstration before January 1, 1979, as required under section 129(c) of the Clean Air Act Amendments of 1977, if the State otherwise meets the requirements of this paragraph and adopts and submits to the Administrator before December 31, 1984, a revised plan which meets the requirements of section 172 (b) and (c). Such extension shall be on the condition that—*

(i) the State certifies to the Administrator prior to December 31, 1982, that attainment of such standard is not possible prior to December 31, 1982, despite implementation of all reasonably available control measures, and submits to the Administrator an accompanying explanation of the reasons therefor;

(ii) the State agrees in writing not to modify so as to make less stringent or to delay any emission limitation or other requirement affecting emissions of the approved or promulgated implementation plan; and

(iii) the State submits prior to December 31, 1984, a revised implementation plan complying with this section and providing for attainment of such standard not later than December 31, 1987.

Failure to submit a revised implementation plan in accordance with clause (iii) or action which in the judgment of the Administrator constitutes a failure to carry out the agreement required by clause (ii) shall immediately terminate any extension under the preceding two sentences.

(B) In the case of a nonattainment area for photochemical oxidants in which the second highest daily maximum one-hour average concentration of such pollutant for 1979 or 1980 exceeded the national primary ambient air quality standard by 100 per centum or more or a nonattainment area for carbon monoxide in which the second highest nonoverlapping eight-hour average concentration of such pollutant for 1979 or 1980 exceeded the national primary ambient air quality standard by 100 per centum or more, and for which the Administrator determines upon the request of the State that attainment of such national primary ambient air quality standard is not possible prior to December 31, 1987, despite the implementation of all reasonably available control measures including—

(i) the adoption of reasonably available control technology satisfactory to the Administrator by every class of source in the area prior to December 31, 1987;

(ii) the existence of a program satisfying the requirements of section 173(a)(1); and

(iii) the operation of a vehicle emission control inspection and maintenance program as of the date of such request of the State,

such State is authorized to establish an alternative date for attainment of such national primary ambient air qualtiy standard. Such alternative date shall provide for attainment as expeditiously as practicable, but not later than five years after the date established under subparagraph (A) of this paragraph. Within two years after the determination of the Administrator under this subparagraph, *but not later than December 31, 1986, the State shall adopt and submit to the Administrator a revised implementation plan complying with this section and providing for attainment of such standard not later than the date established under the preceding sentence.*

(C) In the case of a nonattainment area for photochemical oxidants for which the Administrator determines, upon the request of the State during 1986 or later, that attainment of such national primary ambient air quality standard is not possible prior to December 31, 1987, despite the implementation of all reasonably available control measures including—

(i) the adoption of reasonably available control technology satisfactory to the Administrator by every class of source in the area prior to December 31, 1987;

(ii) the existence of a program satisfying the requirements of section 173(a)(1); and

(iii) the operation of a vehicle emission control inspection and maintenance program as of the date of such request of the State,

such State is authorized to submit a revised implementation plan establishing an alternative date for attainment of such national primary ambient air quality standard. Such alternative date shall provide for attainment as expeditiously as practicable, but not later than three years after the date established under subparagraph (A) of this paragraph.

(b) * * *

(1) * * *

* * * * * * *

(11) in the case of plans which make a demonstration pursuant to paragraph (2) of subsection (a), [—(A)] establish a program which requires, prior to issuance of any permit for construction or modification of a major emitting facility, an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source which demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification;

[(B) establish a specific schedule for implementation of a vehicle emission control inspection and maintenance program; and

[(C) identify other measures necessary to provide for attainment of the applicable national ambient air quality standard not later than December 31, 1987.]

(12) in the case of a plan for an area which includes all or part of an urbanized area (as defined by the Director of the Bureau of the Census) with a population of two hundred thousand or more persons according to the 1980 census and for which a demonstration has been made under subsection (a)(2)—

(A) for carbon monoxide, or

(B) for photochemical oxidants, if the third highest daily maximum one-hour average concentration of such pollutant during the two-year period of 1979 and 1980 exceeded the national primary ambient air quality standard by 50 per centum or more,

provide for operation of a vehicle emission control inspection and maintenance program as expeditiously as practicable, but in the case of an area for which such demonstration is made after the date of enactment of the Clean Air Act Amendments of 1982 not later than January 1, 1985; and

(13) in the case of a plan for an area for which a demonstration under paragraph (a)(2) is made after the date of enactment of the Clean Air Act Amendments of 1982, include reasonably available measures to assure continuous compliance with the requirements of permits issued under this Act for major stationary sources in such area emitting a pollutant for which such area is nonattainment (or a precursor of such pollutant).

[(c) in the case of a State plan revision required under the Clean Air Act Amendments of 1977 to be submitted before July 1, 1982, by reason of a demonstration under subsection (a)(2), effective on such date such plan shall contain enforceable measures to assure attainment of the applicable standard not later than December 31, 1987.]

(c)(1) In the case of a State plan revision required to be submitted by reason of a demonstration under section (a)(2)(A), effective on the date such plan revision is required to be submitted such plan shall contain enforceable measures to assure attainment of the applicable standard not later than December 31, 1987.

(2) In the case of a State plan revision required to be submitted by reason of a demonstration under subsection (a)(2) (B) or (C), effective on the date such plan revision is required to be submitted such plan shall contain enforceable measures to assure attainment of the applicable standard not later than the date established under subsection (a)(2) (B) or (C).

(d) No emission limitation or schedule of compliance for a stationary source may be relaxed or delayed in any area which receives an extension of the date for attainment of a national primary ambient air quality standard provided under subsection (a)(1)(B) or (a)(2) of this section.

(e) A plan provision establishes the allowance permitted for a pollutant for which an area is nonattainment (or a precursor of such pollutant) from new or modified major stationary sources under subsection (b)(5) if—

(1) the State has an approved emissions inventory for such pollutant and area meeting the requirements of subsection (b)(4), and the allowable emissions of such pollutant from proposed new or modified major stationary sources in any calendar year, in combination with all other increases in emissions of such polutant (not offset by any reductions in emissions at such source or other sources) in such nonattainment area in the same calendar year, do not exceed one per centum of the total annual emissions of such pollutant as recorded in the approved emissions inventory;

(2) the State conducts a review prior to construction or modification and requires the best available control technology for every new or modified source which would emit, or have the potential to emit, fifty tons or more per year of such pollutant (not offset by any reductions in emissions at such source or other sources); and

(3) the plan, taken as a whole, meets the requirements of subsection (b), including the requirement that the plan demonstrate reasonable further progress (as defined in section 171).

PERMIT REQUIREMENTS

SEC. 173. *(a)* The permit program required by section 172(b)(6) shall provide that permits to construct and operate may be issued if—

(1) the permitting agency determines that—

(A) by the time the source is to commence operation, total allowable emissions from existing sources in the region *(including nonindustrial sources, inanimate natural sources, and mobile sources);* from new or modified sources which are not major emitting facilities, and from the proposed source will be sufficiently less than total emissions from existing sources allowed under the applicable implementation plan *and under other requirements of this Act* prior to the application for such permit to construct or modify so as to represent (when considered together with the plan provisions required under section 172) reasonable further progress (as defined in section 171); or

(B) that emissions of such pollutant resulting from the proposed new or modified major stationary source will not cause or contribute to emissions levels which exceed the allowance permitted for such pollutant for such area from new or modified major stationary sources under section 172(b);

[(2) the proposed source is required to comply with the lowest achievable emission rate;]

(2) the proposed source is subject to the best available control technology;

(3) the owner or operator of the proposed new or modified source has demonstrated that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in such State are subject to emission limitations and are in compliance, or on a schedule for compliance, with all applicable emission limitations and standards under this Act; and

(4) the applicable implentation plan is being carried out for the nonattainment area in which the proposed source is to be constructed or modified in accordance with the requirements of this part.

Any emission reductions required as a precondition of the issuance of a permit under paragraph (1)(A) shall be legally binding before such permit may be issued.

(b) Any emission reductions required as a precondition of the issuance of a permit under subsection (a)(1)(A) may include emission reductions achieved by a State or local government and paid for by the owner or operator of the proposed new or modified source. For the purpose of the preceding sentence, the permit program required by section 172(b)(6) may include an emission reduction program providing for the emission reductions necessary to comply with the requirements of subsection (a)(1)(A) and for the determination of the

amount of any fees to be paid by the owners or operators of proposed new or modified sources to the State or local government for such emission reductions.

* * * * * * *

LIMITATIONS ON CERTAIN FEDERAL ASSISTANCE

[SEC. 176. (a) The Administrator shall not approve any projects or award any grants authorized by this Act and the Secretary of Transportation shall not approve any projects or award any grants under title 23, United States Code, other than for safety, mass transit, or transportation improvement projects related to air quality improvement or maintenance, in any air quality control region—

[(1) in which any national primary ambient air quality standard has not been attained,

[(2) where transportation control measures are necessary for the attainment of such standard, and

[(3) where the Administrator finds after July 1, 1979, that the Governor has not submitted an implementation plan which considers each of the elements required by section 172 or that reasonable efforts toward submitting such an implementation plan are not being made (or, after July 1, 1982, in the case of an implementation plan revision required under section 172 to be submitted before July 1, 1982).

[(b) In any area in which the State or, as the case may be, the general purpose local government or governments or any regional agency designated by such general purpose local governments for such purpose, is not implementing any requirment of an approved or promulgated plan under section 110, including any requirement for a revised implementation plan under this part, the Administrator shall not make any grants under this Act.

SEC. 176. (a) To such extent or in such categories as the Administrator determines to be appropriate, the Administrator shall withhold any grants authorized under this Act or the approval of any project, and the Secretary of Transportation, upon the request of the Administrator, shall not approve any projects or award any grants under title 23, United States Code, other than for Interstate highway construction with funds apportioned under section 104(b)(5)(A) of such title, safety, mass transit, landscaping, noise attenuation barriers, or transportation projects related to air quality improvement or maintenance, in any nonattainment area—

(1) where the Administrator finds that the Governor has not submitted a plan which includes each of the elements required by section 172 within the time required for submission of such plan, or

(2) in which the State or a responsible local government is not implementing any requirement of a plan adopted or promulgated in accordance with section 172.

(b) The Secretary of Transportation shall not approve any projects or award any grants under title 23, United State Code, other than for Interstate highway construction with funds apportioned under section 104(b)(5)(A) of such title, safety, mass transit, landscaping, noise attenuation barriers, or transportation improvement projects

related to air quality improvement or maintenance, in any nonattainment area—

(1) where the Administrator finds that the Governor has not submitted a plan meeting the requirements of section 172(b)(12) within the time required for submission of such plan, or

(2) in which the State or a responsible local government is not implementing any requirement of a plan required by section 172(b)(12).

* * * * * * *

PART E—INTERSTATE TRANSPORT AND ACID PRECURSOR REDUCTION

FINDINGS AND PURPOSES

SEC. 180. (a) The Congress finds that:

(1) the long-range transport of pollutants and their transformation products is an interstate and international problem;

(2) current levels of emissions of air pollutants from existing sources as well as increased emissions from new and existing sources threaten public health and welfare and the environment in States and countries other than those in which emitted;

(3) reduction of total regional atmospheric loading of pollutants such as sulfur oxides and nitrogen oxides will enhance protection of public health and welfare and the environment;

(4) more effective regulation of the interstate transport of air pollutants is needed in order to protect the health and welfare of the citizens of downwind States and the economic growth opportunities of downwind States; and

(5) in particular,

(A) the deposition of acid compounds from the atmosphere is causing and contributing to widespread long-term ecosystem degradation;

(B) the principal source of the acid compounds in the atmosphere, and their precursors, is the combustion of fossil fuels;

(C) the problem of acid deposition is of national and international significance and cannot be addressed adequately without Federal intervention;

(D) control strategies and technology for precursors to acid deposition exist now that are economically feasible; and

(E) current and future generations of Americans will be more adversely affected by delayed action, so that efforts to remedy the problem should commence now.

(b) The purposes of this part are to:

(1) protect public health and welfare and the environment from any actual or potential adverse effect caused by ambient concentrations or deposition of air pollutants, including the products of atmospheric transformation of pollutants; and

(2) preserve the rights and responsibilities of States to protect the public health and welfare and the environment of their citizens from air pollution originating in other States.

ESTABLISHMENT OF REGION

SEC. 181. There is hereby established a long-range transport corridor, hereafter referred to as the "acid deposition impact region," consisting of the States of Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and the District of Columbia.

RESEARCH AND SPECIAL STUDIES

SEC. 182. (a) The Administrator shall conduct a study of air pollution problems associated with the long-range transport of pollutants in the portions of the continental United States not included in section 181. Not later than two years after the enactment of this section, the Administrator shall report to the Congress the results of such study.

(b)(1) The Acid Precipitation Task Force established under title VII of the Energy Security Act (Public Law 96–294) shall submit to the Committee on Environment and Public Works of the United States Senate and the Committee on Energy and Commerce of the United States House of Representatives, two comprehensive reports, one by December 31, 1985, and one by December 31, 1987, which shall present the findings of the research conducted under section 704(b) of such Act, including recomendations, based upon existing scientific knowledge, for reducing acid deposition and its effects.

(2) In addition to any other funds authorized to be appropriated for the Acid Precipitation Task Force for the purposes of carrying out the activities required by section 704 of title VII of the Energy Security Act, there are authorized to be appropriated $10,000,000 in each of the fiscal years 1983, 1984, 1985, 1986, and 1987.

(c)(1) The Task Force established by title VII of the Energy Security Act shall also conduct and support research on advanced flue-gas cleaning and precombustion fuel treatment technologies and inherently low-emission combustion processes (including atmospheric and pressurized fluidized bed combustion).

(2) There are authorized to be appropriated to a member of such Task Force for fiscal years 1984 through 1988 $50,000,000 for the purposes of funding a joint project among the Tennessee Valley Authority and such others as may be appropriate, including a research institute representing the electric utility industry and individual electric utilities, for the planning, design, construction, operation, and testing of a demonstration facility for the generation of electricity using an atmospheric fluidized bed combustion process. The provision of such funding shall be contingent on non-Federal participants assuming at least 75 per centum of the costs of such joint project.

(d)(1) Not later than six months after enactment of this section there shall be established an Acid Precipitation Scientific Review Board with not more than 15 members who shall be appointed by the National Academy of Sciences.

(2) The Board shall examine and consider all available information regarding the causes, extent, and potential environmental impacts of acid deposition, including a review of all the activities being performed by the Acid Precipitation Task Force under section 704(b) of the Energy Security Act.

(3) The Board shall submit to the Committee on Environment and Public Works of the United States Senate and the Committee on Energy and Commerce of the United States House of Representatives at least two comprehensive reports, one not later than June 30, 1986, and one not later than June 30, 1988, on the results of its examination undertaken in accordance with paragraph (2), including a review of the report(s) submitted to the Committees of Congress by the Task Force as required by subsection (b)(1) of this section, together with the Board's own recommendations for reducing acid deposition and its effects.

(4) There are authorized to be appropriated $1,000,000 for each of fiscal years 1983 through 1988, for the purposes of carrying out the activities required by this subsection.

(e)(1) Promptly after the date established by section 186, the Administrator shall submit to the Committee on Environment and Public Works of the United States Senate and the Committee on Energy and Commerce of the United States House of Representatives a report describing the emission limitation and other enforceable measures adopted by the States and approved by the Administrator under section 185(b) or in effect under section 186, for all States in the acid deposition impact region established by section 181.

(2) The Office of Technology Assessment shall analyze the environmental benefits to be gained through the implementation of the control requirements described by the Administrator in accordance with paragraph (1) of this subsection, the costs of implementing such control requirements, and any potential effects on coal production or markets of implementing such control requirements, on both an aggregate regional and a State-by-State basis. The Office of Technology Assessment shall report its findings to the Committee on Environment and Public Works of the United States Senate and the Committee on Energy and Commerce of the United States House of Representatives no later than six months after the submission of the report required in paragraph (1).

(f) Upon receipt of the reports required by subsections (b)(1), (d), (e)(1), and (e)(2), the Committee on Environment and Public Works of the United States Senate and the Committee on Energy and Commerce of the United States House of Representatives shall conduct hearings on the matters contained in such reports and take such other action as each such committee deems appropriate.

(g) The Administrator shall develop an inventory of sources of oxides of nitrogen in the acid deposition impact region established by section 181 and in each State thereof. Not later than four years after enactment of this part the Administrator shall report to the Committee on Environment and Public Works of the United States Senate and the Committee on Energy and Commerce of the United States House of Representatives on (1) the inventory of sources of oxides of nitrogen developed under this subsection, (2) control technology and methods for new and existing sources for oxides of nitrogen, and (3) any recommendations for requirements to reduce exist-

ing emissions or control new emissions of oxides of nitrogen to reduce acid deposition.

(h) The Administrator and the Secretary of the Treasury shall jointly conduct a study of the potential for a system of fees on the generation of electrical energy in the acid deposition impact region established by section 181, to be used to finance the reductions in emissions required by this part, including the equitable distribution of the funds resulting from such fees. A report of such study shall be submitted to the Congress not later than six months after submittal of the report required by subsection (e)(1) of this section.

(i)(1) The Administrator is authorized to conduct or make grants to any State or interstate agency for the purposes of conducting the development, refinement, and practical demonstration of new, improved, or innovative methods of neutralizing or restoring the buffering capacity of acid altered bodies of water that no longer can support game fish species; and methods of removing from bodies of water toxic metals or other toxic substances mobilized by acid deposition, and to include in such grants such amounts as necessary for the prupose of reports, plans and specifications in connection therewith.

(2) Grants under this subsection shall not be made for any project in an amount exceeding 75 per centum of the costs thereof as determined by the Administrator.

(3) Grants under this subsection shall not be made for any project that involves bodies of water that did not contain game fish as established by State law prior to 1970.

(4) For the purposes of this subsection there are hereby authorized to be appropriated $5,000,000 for each of the fiscal years 1983, 1984, and 1985.

ACID PRECURSOR CONTROLS

SEC. 183. (a) There shall be achieved a reduction in annual emissions of sulfur dioxide in the acid deposition impact region established under section 181 of this Act of 8,000,000 tons from the total actual annual level of such emissions between January 1, 1980, and December 31, 1980. Such reduction shall be achieved pursuant to a phased reduction and completed no later than January 1, 1995.

(b)(1) Emissions of sulfur dioxide from major stationary sources which did not begin operation before January 1, 1981, or which have increased emissions since January 1, 1981 (to the extent of such increase), calculated on an annual basis, shall be added to the amount of sulfur dioxide which the State in which such sources are located is required to reduce not later than January 1, 1995, under section 184 or 185(a).

(2)(A) Such emissions shall not be so added in any State which during 1980 had no major stationary source which was a utility boiler which had an actual annual average emission rate greater than 1.2 pounds of sulfur dioxide per million British thermal units of heat input.

(B) Increases in emissions of sulfur dioxide from utility boilers which are coal capable as defined under section 301(a) of the Fuel Use Act and which convert to the use of coal as a primary fuel shall be so added only to the extent such emissions from a particular

source exceed 1.5 pounds of sulfur dioxide per million British thermal units of heat input on an annual average.

(c) Other than as provided in subsection (b)(2)(B), no major stationary source in such region which began operation before January 1, 1981, shall increase its actual rate of emissions of sulfur dioxide over that experienced by such source during calendar year 1980, unless there has been identified for such source a simultaneous net reduction in emissions of sulfur dioxide at one or more points in such region—

(1) in excess of the emissions which potentially would result from the proposed increase in emission rate, and

(2) not otherwise required by a State implementation plan under section 110 of this Act or under section 184, 185, or 186 of this part.

This subsection shall not apply to increases in actual rates of emissions of sulfur dioxide from sources in any State in which for each major stationary source of sulfur dioxide which was a utility boiler the emission limitation in effect under an applicable implementation plan at the time of such increases is less than or equal to 1.2 pounds of sulfur dioxide per million British thermal units of heat input on an annual average.

(d) No major stationary source of sulfur dioxide shall commence operation after January 1, 1995, in such region unless there has been identified for such source a simultaneous net reduction in emissions of sulfur dioxide at one or more points in such region—

(1) in excess of the emissions which potentially would result from the proposed new source, and

(2) not otherwise required by a State implementation plan under section 110 of this Act or under section 184, 185, or 186 of this part.

This subsection shall not apply to any major stationary source which adopts the best available control technology, as defined in section 169(3) or 171(3) as appropriate for the location of the proposed new source, and which attains at least the most stringent emission limitation shown by an adequate operating history to have been achieved in practice by a major stationary source of the same size, type, and class within the region established under section 181 of this Act.

(e) No major stationary source of oxides of nitrogen in such region which began operation before January 1, 1981, shall increase its actual rate of emissions of oxides of nitrogen as measured in pounds of oxides of nitrogen per million British thermal units of heat input over the greater of that experienced by such source during calendar year 1980, or during the thirty-day period (excluding days on which such source did not operate) immediately preceding the date of enactment of this subsection unless there has been identified for such source a simultaneous net reduction in emissions of oxides of nitrogen at one or more points in such region—

(1) in excess of the emissions which potentially would result from the proposed increase in emission rate, and

(2) not otherwise required by a State implementation plan under section 110 of this Act.

The preceding sentence shall not apply to emissions of oxides of nitrogen from utility boilers which are coal capable as defined under *section 301(a) of the Fuel Use Act and which convert to the use of coal as a primary fuel.*

REGIONAL SULFUR DIOXIDE REDUCTION ALLOCATION

SEC. 184. (a) The Governors of all of the thirty-one States within the acid deposition impact region shall enter into negotiations to establish sulfur dioxide emission reduction requirements for each State within the region sufficient to achieve the total reduction required under section 183(a).

(b) An agreement to allocate sulfur dioxide emission reductions entered into under this section shall be binding and enforceable under sections 113 and 304 of this Act on each State within the acid deposition impact region, but only upon notification to the Administrator by the Governors of 75 per centum of the States in the acid deposition impact region, within eighteen months after enactment of this part, that such agreement has been reached.

STATE SULFUR DIOXIDE REDUCTION REQUIREMENTS

SEC. 185. (a)(1) If the Governors fail to reach agreement within eighteen months after the enactment of this part for the allocation of sulfur dioxide reduction under section 184 sufficient to achieve the requirements of section 183(a), each State shall be required to achieve, within its borders, a reduction in annual sulfur dioxide emissions equal to that fraction of 8,000,000 tons which is the ratio of all the actual utility emissions in such State in excess of 1.5 pounds of sulfur dioxide per million British thermal units of heat input averaged over the period January 1, 1980, to December 31, 1980, to the total in all States in the region of all the actual utility emissions in excess of 1.5 pounds of sulfur dioxide per million British thermal units of heat input averaged over such period.

(2) The Governors of any two or more States within the region may by agreement reallot among agreeing States the reductions required under subsection (a)(1) provided that the total reductions equal the total required under subsection (a)(1).

(b)(1) Not later than forty-two months after the enactment of this part, each State shall adopt enforceable measures to achieve the reduction in sulfur dioxide emissions required by section 184 or subsection (a) of this section, including emission limitations and schedules for compliance for sources within such State and other means of emission reduction in accordance with section 187 of this Act. The Governor of such State shall submit such measures to the Administrator for review in accordance with paragraph (2) of this subsection and section 110(a)(3), and to the Governors of all other States in the acid deposition impact region for comment.

(2) Review and approval of measures submitted under this subsection shall be as provided in section 110(a)(3). The Administrator shall approve such measures submitted under paragraph (1) of this subsection if, taking into consideration the comments of Governors of other States in such region, the Administrator finds that such measures—

(A) contain enforceable requirements for continuous emission reduction,

(B) contain requirements for monitoring by the source and enforcement agencies to assure that the emission limitations are being met, and

(C) are adequate to achieve the reduction in sulfur dioxide emissions for such State required pursuant to section 184 or subsection (a) of this section within the time specified in section 183(a) of this Act.

(3) Each emission limitation, schedule for compliance or other measure adopted and approved under this subsection shall be deemed a requirement of the State implementation plan approved or promulgated for such State under section 110 of this Act.

(4) In the case of any major stationary source in a State listed in section 181, which is not by December 31, 1985, in full compliance with the applicable implementation plan for sulfur dioxide in effect on January 1, 1981, the owner or operator of such source shall be subject to:

(A) the emission limitation established by section 186 for all facilities in such State owned or operated by such owner or operator, and

(B) a noncompliance penalty established under section 120 for each such source or facility, including each electric generating facility, for the period from the original date for compliance under the applicable implementation plan until actual compliance with the emission limitation established under this paragraph.

(5)(A) The enforceable measures adopted under this subsection shall include schedules for compliance which specify actions to be performed leading toward final compliance and increments of progress to be achieved by dates in advance of the dates by which the State requires each particular source to comply with the emission limitation necessary to attain the reduction for such State under section 184 or 185(a). The State in adopting such measures and the Administrator in reviewing such measures shall be encouraged to stage or phase such compliance dates so that to the extent practicable significant emission reduction under this part is achieved prior to January 1, 1995.

(B) Each major stationary source which proposes to comply with an emission limitation established under this subsection or section 186 by any means other than an innovative system of continuous emission reduction or the replacement of existing facilities with new facilities of substantially lower emissions shall comply with such emission limitation not later than January 1, 1993.

MAJOR STATIONARY SOURCE SULFUR DIOXIDE REDUCTION REQUIREMENTS

SEC. 186. In any State in the acid deposition impact region established by section 181 of the Act which has not in accordance with section 185(b)(1) of this Act adopted measures to achieve the reduction required by section 184(a) or section 185(a) of this Act within forty-two months after enactment of this part, or which has not had such measures approved by the Administrator under section 185(b)(2) of this Act within six months after the submission of such measures, the owner or operator of each fossil-fuel-burning electric *generating facility which is a major stationary source which is not subject to section 111(a) shall comply with an emission limitation or limitations for all such facilities owned or operated by the same entity in such region equivalent to an average among such facilities of 1.2 pounds of sulfur dioxide per million British thermal units of heat input on a thirty-day average. The owner or operator of each such facility shall submit to the Administrator a plan and schedule of compliance for achieving such emission limitation or equivalent emission reduction in accordance with section 187 of this Act, not later than four years after the enactment of this part or six months after the date on which such owner or operator becomes subject to such emission limitation, whichever is later. The Administrator shall approve such plan and schedule for compliance if it—*

(A) contains enforceable requirements for continuous emission reduction;

(B) contains requirements for monitoring by the source and enforcement agencies to assure that the emissions limitations are being met; and

(C) will achieve the emission reduction required by this section at the earliest practicable date, but no later than January 1, 1995.

Failure of such owner or operator to submit such approvable plan and schedule within the time provided in this section, failure to comply with the plan and schedule of compliance, and failure to achieve the emission reduction required by this section at the earliest practicable date, but no later than January 1, 1995, shall be violations of emission limitations for the purposes of sections 113, 120, and 304 of this Act.

ENFORCEABLE EMISSION REDUCTION PROGRAMS

SEC. 187. (a) For the purposes of maintaining the limitation on emissions required by section 183(c) of this Act or attaining emission reductions required by section 183(a), 184, 185, or 186 of this Act, the following methods or programs for net emission reduction may be used, in addition to enforceable continuous emission reduction measures, by a State or the owner or operator of a source, if emission limitations under such methods or programs are enforceable by the Federal Government, States other than those in which the emissions occur, and citizens under section 304 of this Act:

(1) least emissions dispatch to meet electric generating demand at existing generating capacity;

(2) retirement of major stationary sources at an earlier date than provided in schedules on file with the Federal Energy Regulatory Commission, the Internal Revenue Service, or State utility regulatory agencies;

(3) investments in energy conservation where reductions in emissions can be identified with such investments;

(4) trading of emission reduction requirements and actual reductions on a State or regional basis, for which States and the Administrator are authorized to establish emission reduction banks or brokerage institutions to facilitate such trading; and

(5) precombustion cleaning of fuels.

TITLE II—EMISSION STANDARDS FOR MOVING SOURCES

* * * * * * *

PART A—MOTOR VEHICLE EMISSION AND FUEL STANDARDS

ESTABLISHMENT OF STANDARDS

SEC. 202. (a) * * *
(1) * * *

* * * * * * *

(3)(A)(i) * * *

(ii) Unless, *in the case of oxides of nitrogen,* a different standard is temporarily promulgated as provided in subparagraph (B) or unless, *in the case of oxides of nitrogen,* the standard is changed as provided in subparagraph (E), regulations under paragraph (1) of this subsection applicable to emissions from vehicles or engines manufactured during and after model year—

(I) ⟦1983,⟧ *1984,* in the case of hydrocarbons and carbon monoxide, shall contain standards which require a reduction of at least 90 percent, and

(II) 1985, in the case of oxides of nitrogen, shall contain standards which require a reduction of at least 75 percent,

from the average of the actually measured emissions from heavy-duty gasoline-fueled vehicles or engines, or any class or category thereof, manufactured during the baseline model year.

(iii) The Administrator shall prescribe regulations under paragraph (1) of this subsection applicable to emissions of particulate matter from classes or categories of vehicles manufactured during and after model year 1981 (or during any earlier model year, if practicable). Such regulations shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy, and safety factors associated with the application of such technology. Such standards shall ⟦be promulgated and shall take effect as expeditiously as practicable taking into account the period necessary for compliance.⟧ *be effective beginning four model years after the model year in which such standards are promulgated and shall apply for a period of at least four model years. The Administrator is authorized to make appropriate arrangements with the National Academy of Sciences to review the technological feasibility of any proposed standard for particulate matter.*

* * * * * * *

(vi) In promulgating or revising any standard or determining eligibility of any standard for revision under this paragraph the Administrator shall take into account for each such pollutant the effect of attaining the proposed standard on attaining an existing or proposed standard for each other pollutant. In establishing emission standards under subsection (a) for heavy duty vehicles or engines, in revising such a standard under subparagraph (B), or in changing such a standard under subparagraph (E), the Administrator is au-

thorized to prescribe standards for emissions of oxides of nitrogen and particulate matter for diesel-powered motor vehicles and motor vehicle engines which take effect in the same model year.

(B) [During the period of June 1 through December 31, 1978, in the case of hydrocarbons and carbon monoxide, or during the period of June 1 through December 31, 1980, in the case of oxides of nitrogen, and during each period of June 1 through December 31 of each third year thereafter, the] *The* Administrator may, after notice and opportunity for a public hearing promulgate regulations revising any standard prescribed as provided in subparagraph [(A)(ii)] *(A)(ii)(II)* for any class or category of heavy-duty vehicles or engines. Such standard shall apply only for the period of [three] *four* model years beginning four model years after the model year in which such revised standard is promulgated. In revising any standard under this subparagraph for any such [three] *four* model year period, the Administrator shall determine the maximum degree of emission reduction which can be achieved by means reasonably expected to be available for [production of] *production during* such period and shall prescribe a revised emission standard in accordance with such determination. Such revised standard shall require a reduction of emissions from any standard which applies in the previous model year.

* * * * * * *

(E)(i) The Administrator shall conduct a continuing pollutant specific study concerning the effects of each air pollutant emitted from heavy-duty vehicles or engines and from other sources of mobile source related pollutants on the public health and welfare. *The Administrator shall consider studies available from the Health Effects Institute.* The results of such study shall be published in the Federal Register and reported to the Congress not later than June 1, 1978, in the case of hydrocarbons and carbon monoxide, and June 1, 1980, in the case of oxides of nitrogen, and before June 1 of each third year thereafter.

(ii) On the basis of such [study and] *study or* such other information as available to him (including the studies under section 214), the Administrator may, after notice and opportunity for a public hearing, promulgate regulations under paragraph (1) of this subsection changing any standard prescribed in subparagraph (A)[(ii)] (or revised under subparagraph (B) or previously changed under this subparagraph) *applicable to any pollutant other than hydrocarbons and carbon monoxide.* No such changed standard shall apply for any model year before the model year four years after the model year during which regulations containing such changed standard are promulgated.

* * * * * * *

(b)(1)(A) The regulations under subsection (a) applicable to emissions of carbon monoxide and hydrocarbons from light duty vehicles and engines manufactured during model years 1977 through 1979 shall contain *low altitude* standards which provide that such emissions from such vehicles and engines may not exceed 1.5 grams per vehicle mile of hydrocarbons and 15.0 grams per vehicle mile of carbon monoxide. The regulations under subsection (a) applicable to emissions of carbon monoxide from light duty vehicles and engines manufactured during the model year 1980 shall contain *low altitude* standards which provide that such emissions may not exceed 7.0 grams per vehicle mile. The regulations under subsection (a) applicable to emissions of hydrocarbons from light duty vehicles and engines manufactured during or after model year 1980 shall contain *low altitude* standards which require a reduction of at least 90 percent from emissions of such pollutant allowable under the *low altitude* standards under this section applicable to light duty vehicles and engines manufactured in model year 1970. Unless waived as provided in paragraph (5), regulations under subsection (a) applicable to emissions of cabon monoxide from light duty vehicles and engines manufactured during or after the model year 1981 shall contain *low altitude* standards which require a reduction of at least 90 percent from emissions of such pollutant allowable under the *low altitude* standards under this section applicable to light duty vehicles and engines manufactured in model year 1970.

(B) [The regulations under subsection (a) applicable to emissions of oxides of nitrogen from light duty vehicles and engines manufactured during model years 1977 through 1980 shall contain standards which provide that such emissions from such vehicles and engines may not exceed 2.0 grams per vehicle mile.] The regulations under subsection (a) applicable to emissions of oxides of nitrogen from *gasoline-powered* light duty vehicles and engines manufactured during the model year 1981 and thereafter, *and from diesel-powered light duty vehicles and engines manufactured during the model years 1981 and 1982 and during the model years 1985 and thereafter,* shall contain *low altitude* standards which provide that such emissions from such vehicles and engines may not exceed 1.0 gram per vehicle mile. *The regulations under subsection (a) applicable to emissions of oxides of nitrogen from diesel-powered light duty vehicles and engines manufactured during model year 1983 and 1984 shall contain standards which provide that such emissions from such vehicles and engines may not exceed 1.5 grams per vehicle mile.* The Administrator shall prescribe *low altitude* standards in lieu of those required by the [preceding sentence] *first sentence of this subparagraph* which provide that emissions of oxides of nitrogen may not exceed 2.0 grams per vehicle mile for any light duty vehicle manufactured during model years 1981 and 1982 by any manufacturer whose production, by corporate identity, for calendar year 1976 was less than three hundred thousand light duty motor vehicles worldwide if the Administrator determines that—

(i) the ability of such manufacturer to meet emission *low altitude* standards in the 1975 and subsequent model years was, and is, primarily dependent upon technology developed by other manufacturers and purchased from such manufacturers; and

(ii) such manufacturer lacks the financial resources and technological ability to develop such technology.

(C) * * *

(D) Unless waived as provided in paragraph (8), the regulations under subsection (a) applicable to emissions of particulate matter from light duty vehicles and engines manufactured during model

year 1986 and thereafter shall contain low altitude standards which provide that such emissions from such vehicles and engines may not exceed 0.2 gram per vehicle mile of particulate matter.

* * * * * * *

(3) For purposes of this part—

(A)**[**(i)**]** The term "model year" with reference to any specific calendar year means the manufacturer's annual production period (as determined by the Administrator) which includes January 1 of such calendar year. If the manufacturer has no annual production period, the term "model year" shall mean the calendar year.

[(ii)**]***(B)* For the purpose of assuring that vehicles and engines manufactured before the beginning of a model year were not manufactured for purposes of circumventing the effective date of a standard required to be prescribed by subsection (b), the Administrator may prescribe regulations defining "model year" otherwise than as provided in clause (i).

[(B) The term "light duty vehicles and engines" means new light duty motor vehicles and new light duty motor vehicle engines, as determined under regulations of the Administrator.

[(C) The term "heavy duty vehicle" means a truck, bus, or other vehicle manufactured primarily for use on the public streets, roads, and highways (not including any vehicle operated exclusively on a rail or rails) which has a gross vehicle weight (as determined under regulations promulgated by the Administrator) in excess of six thousand pounds. Such term includes any such vehicle which has special features enabling off-street or off-highway operation and use.**]**

* * * * * * *

(6)(A) * * *

(B) Upon the petition of any manufacturer, the Administrator, after notice and opportunity for public hearing, may waive the standard required under subparagraph (B) of paragraph (1) to not to exceed 1.5 grams of oxides of nitrogen per vehicle mile for any class or category of light duty vehicles and engines manufactured by such manufacturer during the **[**four**]** *two* model year period beginning with the model year 1981 if the manufacturer can show that such waiver is necessary to permit the use of diesel engine technology in such class or category of vehicles or engines. Such waiver may be granted if the Administrator determines—

(i) that such waiver will not endanger public health,

(ii) that such waiver will result in significant fuel savings at least equal to the fuel economy standard applicable in each year under the Energy Policy and Conservation Act, and

(iii) that the technology has a potential for long-term air quality benefit and has the potential to meet or exceed the average fuel economy standard applicable under the Energy Policy and Conservation [illegible] the expiration of the waiver.

(7) * * *

(8)(A) Upon the petition of any manufacturer, the Administrator, after notice and opportunity for public hearing, may waive the standard required under subparagraph (D) of paragraph (1) to not

exceed 0.6 gram per vehicle mile of particulate matter for any class or category of light duty vehicles or engines manufactured by such manufacturer during the two model year period beginning with model year 1986. Such waiver may be granted only if the Administrator determines—

(i) that such waiver would not endanger public health; and

(ii) the applicant has established that effective control technology, processes, operating methods, or other alternatives are not available or have not been available with respect to the class or category of light duty vehicles or engines in question for a sufficient period of time to achieve compliance prior to the effective date of such standards, taking into consideration costs and fuel economy.

(B) Upon the petition of any manufacturer, the Administrator, after notice and opportunity for public hearing, may waive the standard required under paragraph (1)(B) to not to exceed 1.5 grams per vehicle mile of oxides of nitrogen for any class or category of diesel-powered light duty vehicles or engines manufactured by such manufacturer during the two model year period beginning with model year 1986, if such waiver is necessary to, and will in fact, avoid granting a waiver with respect to particulate matter under subparagraph (A) of this paragraph.

(c)(1) * * *

* * * * * * *

(d)(1) The regulations under subsection (a) applying to model year 1983 light duty trucks shall contain low altitude standards providing that emissions from such vehicles may not exceed 1.7 grams per vehicle mile of hydrocarbons and 18 grams per vehicle mile of carbon monoxide. The regulations under subsection (a) applying to model year 1984 and later light duty trucks shall contain low altitude standards providing that emissions from such vehicles may not exceed 0.8 gram per vehicle mile of hydrocarbons and 10 grams per vehicle mile of carbon monoxide. The regulations under subsection (a) applying to model years 1983 and 1984 light duty trucks shall contain low altitude standards providing that emissions from such vehicles may not exceed 2.3 grams per vehicle mile of oxides of nitrogen. The regulations under subsection (a) applying to model year 1985 and later light duty trucks which have gross vehicle weights of 6,000 pounds or less shall contain low altitude standards providing that emissions from such vehicles may not exceed 1.2 grams per vehicle mile of oxides of nitrogen. The regulations under subsection (a) applying to model year 1985 and later light duty trucks which have gross vehicle weights exceeding 6,000 pounds shall contain low altitude standards providing that emissions from such vehicles may not exceed 1.7 grams per vehicle mile of oxides of nitrogen.

(2)(A) Unless waived as provided in subparagraph (B), the regulations under subsection (a) applicable to emissions of particulate matter from light duty trucks and engines manufactured during model year 1986 and thereafter shall contain low altitude standards which provide that such emissions from such vehicles and engines may not exceed 0.26 gram per vehicle mile of particulate matter.

(B) Upon the petition of any manufacturer, the Administrator, after notice and opportunity for public hearing, may waive the

standard required under subparagraph (A) to not to exceed 0.6 gram per vehicle mile of particulate matter for any class or category of light duty trucks or engines manufactured by such manufacturer during the two model year period beginning with model year 1986. Such waiver may be granted only if the Administrator determines that—

(i) such waiver would not endanger public health; and

(ii) the applicant has established that effective control technology, processes, operating methods, or other alternatives are not available or have not been available with respect to the class or category of light duty trucks or engines in question for a sufficient period of time to achieve compliance prior to the effective date of such standards, taking into consideration costs and fuel economy.

(C) Upon the petition of any manufacturer, the Administrator, after notice and opportunity for public hearing, may waive the standard for oxides of nitrogen required under paragraph (1) of this subsection to not to exceed 1.7 grams per vehicle mile of oxides of nitrogen for any class or category of diesel-powered light duty trucks or engines which have gross vehicle weights of 6,000 pounds or less, or not to exceed 2.3 grams per vehicle mile of oxides of nitrogen for any class or category of diesel-powered light duty trucks or engines which have gross vehicle weights exceeding 6,000 pounds, manufactured by such manufacturer during the two-model-year period beginning with model year 1986, if such waiver is necessary to, and will in fact, avoid granting a waiver with respect to particulate matter under subparagraph (B) of this paragraph.

[(d)**]***(e)* The Administrator shall prescribe regulations under which the useful life of vehicles and engines shall be determined for purposes of subsection (a)(1) of this section and section 207. Such regulations shall provide that useful life shall—

(1) in the case of light duty vehicles and light duty vehicle engines, be a period of use of five years or of fifty thousand miles (or the equivalent), whichever first occurs;

[(2) in the case of any other motor vehicle or motor vehicle engine (other than motorcycles or motorcycle engines) be a period of use set forth in paragraph (1) unless the Administrator determines that a period of use of greater duration or mileage is appropriate; and**]**

(2) in the case of any other motor vehicle or motor vehicle engine (other than motorcycles or motorcycle engines) be a period of use which is the greater of—

(A) one-half of—

(i) the average time or use between first use and engine retirement or rebuild; or

(ii) any other measure of actual life, as determined by the Administrator for the affected class or category; or

(B) the duration or mileage of the published commercial warranty; and

(3) in the case of any motorcycle or motorcycle engine, be a period of use the Administrator shall determine.

[(e)**]***(f)* In the event a new power source or propulsion system for new motor vehicles or new motor vehicle engines is submitted for certification pursuant to section 206(a), the Administrator may postpone certification until he has prescribed standards for any air pollutants emitted by such vehicle or engine which in his judgment cause or contribute to, air pollution which may reasonably be anticipated to endanger the public health or welfare but for which standards have not been prescribed under subsection (a).

[(f)*(g)*(1) The high altitude regulation in effect with respect to model year 1977 motor vehicles shall not apply to the manufacture, distribution, or sale of 1978 and later model year motor vehicles. Any future regulation affecting the sale or distribution of motor vehicles or engines manufactured before the model year 1984 in high altitude areas of the country shall take effect no earlier than model year 1981.

[(2) Any such future regulation applicable to high altitude vehicles or engines shall not require a percentage of reduction in the emissions of such vehicles which is greater than the required percentage of reduction in emissions from motor vehicles as set forth in section 202(b). This percentage reduction shall be determined by comparing any proposed high altitude emission standards to high altitude emissions from vehicles manufactured during model year 1970. In no event shall regulations applicable to high altitude vehicles manufactured before the model year 1984 established a numerical standard which is more stringent than that applicable to vehicles certified under non-high altitude conditions.

[(3) Section 307(d) shall apply to any high altitude regulation referred to in paragraph (2) and before promulgating any such regulation, the Administrator shall consider and make a finding with respect to—

[(A) the economic impact upon consumers, individual high altitude dealers, and the automobile industry of any such regulation, including the economic impact which was experienced as a result of the regulation imposed during model year 1977 with respect to high altitude certification requirements;

[(B) the present and future availability of emission control technology capable of meeting the applicable vehicle and engine emission requirements without reducing model availability; and

[(C) the likelihood that the adoption of such a high altitude regulation will result in any significant improvement in air quality in any area to which it shall apply.]

(g)(1) In establishing under subsection (a) emission standards for model year 1984 and later light duty vehicles and light duty trucks, the Administrator shall establish—

(A) low altitude emission standards which shall establish levels of emissions which may not be exceeded under low altitude conditions; and

(B) high altitude emission standards which shall establish levels of emissions which may not be exceeded under high altitude conditions.

(2) The high altitude standards described in paragraph (1)(B) applying to—

(A) exhaust emissions of oxides of nitrogen from such vehicles manufactured in model year 1984 and later; and

(B) exhaust emissions of carbon monoxide from such light duty vehicles manufactured in model year 1984 and later and from such light duty trucks manufactured in model year 1985 and later,

shall be equal in numerical value to the low altitude standards applying to emissions of such pollutants from such vehicles.

(3) Except as provided in paragraph (2), the high altitude standards described in paragraph (1)(B) applying to every pollutant for which the Administrator has established low altitude emission standards shall require at least a percentage of reduction in the emissions of such pollutant (compared to the emissions under high altitude conditions from such vehicles manufactured in the model year preceding the model year for which an emission standard was first in effect for such pollutant, or, in the case of exhaust emissions of hydrocarbons from light duty vehicles, in model year 1970) equal to the percentage of reduction in the emissions from such vehicles required by such low altitude standards (compared to the emissions under low altitude conditions from such vehicles manufactured in the model year preceding the model year for which an emission standard was first in effect for such pollutant, or, in the case of exhaust emissions of hydrocarbons from light duty vehicles, in model year 1970). In no event shall such high altitude standards establish a standard numerically more stringent than a corresponding low altitude standard.

(h) At such time as diesel-powered vehicles constitute 10 percent of the total annual sales of light duty vehicles and light duty trucks, the Administrator shall promulgate regulations prohibiting the sale of diesel fuel for use in motor vehicles with a sulfur content of more than 0.05 percent by weight or such lesser limit as the Administrator determines is necessary to protect the public health or welfare. Such regulations shall take effect no more than 48 months after January 1 of the first calendar year in which diesel-powered vehicles constitute 10 percent of the total annual sales of all light duty vehicles and light duty trucks.

PROHIBITED ACTS

SEC. 203. (a) * * *

* * * * * * *

(b)(1) * * *

(2)*(A)* A new motor vehicle or new motor vehicle engine offered for importation or imported by any person in violation of subsection (a) shall be refused admission into the United States, [but the Secretary of the Treasury and the Administrator may, by joint regulation, provide for deferring final determination as to admission and authorizing the delivery of such a motor vehicle or engine offered for import to the owner or consignee thereof upon such terms and conditions (including the furnishing of a bond) as may appear to them appropriate to insure that any such motor vehicle or engine will be brought into conformity with the standards, requirements, and limitations applicable to it under this part.] *except in the following circumstances—*

(i) in the case of a vehicle or engine which is one of a class of vehicles or engines for which an application for a certificate of

conformity under section 206 is pending before the Administrator, the Secretary of the Treasury and the Administrator may, by joint regulation, provide for deferring final determination as to admission and authorizing the delivery of such a motor vehicle or engine offered for import to the owner or consignee thereof upon such terms and conditions (including the furnishing of a bond) as may appear to them appropriate to assure that any such motor vehicle or engine is in conformity with the standards, requirements, and limitations applicable to it under this part; or

(ii) where the new motor vehicle or new motor vehicle engine offered for importation or imported by an individual is five model years old or older.

(B) The Secretary of the Treasury shall, if a motor vehicle or engine is finally refused admission under this paragraph, cause disposition thereof in accordance with the customs laws unless it is exported, under regulations prescribed by such Secretary, within ninety days of the date of notice of such refusal or such additional time as may be permitted pursuant to such regulations, except that disposition in accordance with the customs laws may not be made in such manner as may result, directly or indirectly, in the sale, to the ultimate consumer, of a new motor vehicle or new motor vehicle engine that fails to comply with applicable standards of the Administrator under this part.

(C) For purposes of this paragraph, the importation of a vehicle for commercial or public transportation use, which would otherwise be unavailable, into and solely for use within a Territory of the United States which the Administrator, upon application of the Governor of such Territory, finds is not a nonattainment area (as defined in section 171(2)) and which imports fewer than 500 vehicles per year, shall not be considered importation into the United States.

* * * * * * *

MOTOR VEHICLE AND MOTOR VEHICLE ENGINE COMPLIANCE TESTING AND CERTIFICATION

Sec. 206. (a)(1) The Administrator shall test, or require to be tested in such manner as he deems appropriate, any new motor vehicle or new motor vehicle engine submitted by a manufacturer to determine whether such vehicle or engine conforms *under low altitude conditions (except as otherwise provided in subsection (f)(1))* with the regulations prescribed under section 202 of this Act. If such vehicle or engine conforms to such regulations, the Administrator shall issue a certificate of conformity upon such terms, and for such period (not in excess of one year) as he may prescribe. In the case of any manufacturer of vehicles or vehicle engines whose projected sales in the United Staes for any model year (as determined by the Administrator) will not exceed three hundred *(other than a person who is a manufacturer solely due to the importation of motor vehicles or motor vehicle engines)*, the regulations prescribed by the Administrator concerning testing by the manufacturer for purposes of determining compliance with regulations under section 202 for the useful life of the vehicle or engine shall not require operation of any vehicle or engine manufactured during such model year for more than five thousand miles or one hundred and sixty hours, respectively, but the Administrator shall apply such adjustment factors as he deems appropriate to assure that each such vehicle or engine will comply during its useful life (as determined under section 202(d)) with the regulations prescribed under section 202 of this Act.

* * * * * * *

[(f)(1) All light duty vehicles and engines manufactured during or after model year 1984 shall comply with the requirements of section 202 of this Act regardless of the altitude at which they are sold.

[(2) By October 1, 1978, the Administrator shall report to the Congress on the economic impact and technological feasibility of the requirements found in subparagraph (1) of this subsection. the report is also to evaluate the technological feasibility and the health consequences of separate proportional emission standards for light duty vehicles and engines in high altitude areas that would reflect a comparable percentage of reduction in emissions to that achieved by light duty vehicles and engines in low altitude areas.]

(f)(1) The Administrator may issue a certificate of conformity under subsection (a) for light duty vehicles or light duty trucks manufactured in model year 1984 or later only if—

(A) the vehicles comply under low altitude conditions with the applicable low altitude emission standards, and are capable by design, or by adjustments or modifications which have been approved by the Administrator under paragraph (3)(B), of complying under high altitude conditions with the applicable high altitude emission standards;

(B) the vehicles comply under low altitude conditions with the applicable low altitude emission standards, and are subject to an exemption granted under paragraph (4); or

(C) the vehicles comply under high altitude conditions with the applicable high altitude emission standards and the manufacturer demonstrates to the satisfaction of the Administrator that virtually all such vehicles are intended for principal use at elevations of at least 4,000 feet above sea level.

(2) The Administrator shall determine the durability under high altitude conditions of the emission control performance of vehicles using data from tests conducted under low altitude conditions on the same or similar vehicles, unless the Administrator determines that it is necessary or appropriate to conduct separate tests under high altitude conditions.

(3) In the case of vehicles which require adjustments or modifications to meet the requirements of paragraph (1)(A)—

(A) the manufacturer shall describe such adjustments or modifications (and the readjustments and remodifications referred in subparagraph (B)(ii)) in the application for a certificate of conformity;

(B) the Administrator shall approve such descriptions if the Administrator determines that—

(i) the adjustments or modifications are sufficient to enable such vehicles to meet the requirements of paragraph (1)(A);

(ii) the readjustments or remodifications are in accordance with section 215(b)(3); and

(iii) the adjustments or modifications, and readjustments or remodifications, can be performed by the manufacturer's authorized dealers;

(C) the descriptions referred to in subparagraph (B) may provide for adjustments or modifications, including changes in gear ratios, to ensure adequate performance under high altitude conditions, and, in the case of readjustments or remodifications, under low altitude conditions;

(D) the certificate of conformity issued for such vehicles shall not be in effect, and shall state that it shall not be in effect, with respect to an individual vehicle intended for principal use in a designated high altitude area if the manufacturer has failed to make all reasonable efforts (as defined by regulations which shall be promulgated by the Administrator before model year 1984) to ensure that such vehicle has been adjusted or modified in accordance with such description prior to the sale or delivery to the ultimate purchaser; and

(E) at the time such adjustments or modifications (or readjustments or remodifications) are performed on an individual vehicle, the vehicle shall be affixed with a device specified by the Administrator indicating the vehicle has been so adjusted or modified (or readjusted or remodified).

(4)(A) Upon application of a manufacturer, the Administrator shall exempt any motor vehicles, for a period of one model year, from the high altitude requirements of paragraph (1)(A) if—

(i) the Administrator has approved high altitude performance adjustment instructions for such vehicles under section 215, and

(ii) the number of such vehicles intended for principal use in designated high altitude areas represents not more that 15 percent of the manufacturer's anticipated combined sales in that model year of light duty vehicles and light duty trucks intended for principal use in designated high altitude areas.

(B) A certificate of conformity issued for vehicles subject to an exemption granted under subparagraph (A) shall not be in effect, and shall state that it shall not be in effect, with respect to an individual vehicle intended for principal use in a designated high altitude area if the manufacturer has failed to make all reasonable efforts (as defined by regulations which shall be promulgated by the Administrator before model year 1984) to ensure that such vehicle has been adjusted or modified before sale or delivery to the ultimate purchaser in accordance with the instructions referred to in subparagraph (A)(i).

(C) At the end of any model year in which a manufacturer is granted exemptions under subparagraph (A), the manufacturer shall inform the Administrator of the manufacturer's actual combined sales of light duty vehicles and light duty trucks intended for principal use in designated high altitude areas and of such vehicles subject to such exemptions. If the number of vehicles subject to such ex-

emptions exceeded 15 per centum of such actual combined sales then the Administrator shall determine the amount of such excess and shall, for the next succeeding model year in which it is practicable to do so, reduce by such amount the maximum number of such exemptions the manufacturer otherwise could be granted under subparagraph (A). Any manufacturer whose number of vehicles subject to such exemptions exceeds 15 per centum of such actual combined sales for three successive model years shall not be granted any such exemptions for the next model year for which such manufacturer has not previously been granted such exemptions.

(D) At the end of any model year in which a manufacturer manufactures vehicles issued a certificate of conformity under paragraph (1)(C), the manufacturer shall inform the Administrator of the actual sales of such vehicles intended for principal use at elevations of at least 4,000 feet above sea level, and of any such vehicles intended for principal use at elevations less than 4,000 feet above sea level.

* * * * * * *

COMPLIANCE BY VEHICLES AND ENGINES IN ACTUAL USE

SEC. 207. (a)(1) * * *

* * * * * * *

(h)(1) Upon the sale of each new [light-duty] motor vehicle by a dealer, the dealer shall furnish to the purchaser a certificate that such motor vehicle conforms to the applicable regulations under section 202, including, *in the case of the sale of a new light duty vehicle,* notice of the purchaser's rights under paragraph (2). *In the case of a model year 1984 or later light duty vehicle or light duty truck intended for principal use in a designated high altitude area, the certificate furnished by the dealer shall certify that any adjustments or modifications required by section 206(f)(3)(D) or section 206(f)(4)(B) have been performed.*

* * * * * * *

REGULATION OF FUELS

SEC. 211. (a) * * *

* * * * * * *

(g)(1) * * *

(2) No regulations of the Administrator under this section (or any amendment or revision thereof) respecting the control or prohibition of lead additives in gasoline shall require a small refinery prior to October 1, 1982, to reduce the average lead content per gallon of gasoline refined at such refinery below the applicable amount specified in the table below:

If the average gasoline production of the small refinery for the immediately preceding calendar year (or, in the case of refineries under construction, half the designed crude oil capacity) was (in barrels per day):

	The applicable amount (in grams per gallon)
5,000 or under	2.65.
5,001 to 10,000	2.15.
10,001 to 15,000	1.65.
15,001 to 20,000	1.30.
20,001 to 25,000	.80.
25,001 or over	(1).

[1] As prescribed by the Administrator, but not greater than 0.80.

The Administrator may promulgate such regulations as he deems appropriate with respect to the reduction of the average lead content of gasoline refined by small refineries on and after October 1, 1982, taking into account the experience under the preceding provisions of this paragraph. *No regulation of the Administrator under this section controlling lead additives in gasoline shall allow the average lead content per gallon of leaded gasoline to exceed in future quarters the average lead content per gallon of leaded gasoline that was achieved during the quarter ending June 30, 1982. Nor shall the regulations of the Administrator under this section regulating the lead content of gasoline (40 C.F.R. 80) in effect on July 1, 1982, be amended to allow any increase in the average lead content per gallon of gasoline.*

* * * * * * *

HIGH ALTITUDE PERFORMANCE ADJUSTMENTS

SEC. 215. (a)(1) Any action taken with respect to any element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title (including any alteration or adjustment of such element), shall be treated as not in violation of section 203(a) if such action is performed in accordance with—

(A) high altitude adjustment instructions provided by the manufacturer under subsection (b) and approved by the Administrator[.]*; or*

(B) the adjustments and modifications and readjustments and remodifications referred to in section 206(f).

(2) If the Administrator finds that adjustments or modifications made pursuant to instructions of the manufacturer under [paragraph (1)] *paragraph (1)(A)* will not insure *overall* emission control performance [with respect to each standard under section 202] at least equivalent to that which would result if no such adjustments or modifications were made, he shall disapprove such instructions. Such findings shall be based upon minimum engineering evaluations consistent with good engineering practice. *Such instructions may also include adjustments or modifications, including changes in gear ratios, to assure adequate performance under high altitude conditions.*

* * * * * * *

[(d) Before January 1, 1981 the authority provided by this section shall be available in any high altitude State (as determined under regulations of the Administrator under regulations promulgated before the date of the enactment of this Act) but after December 31, 1980, such authority shall be available only in any such State in which an inspection and maintenance program for the testing of motor vehicle emissions has been instituted for the portions of the State where any national ambient air quality standard for auto-related pollutants has not been attained.]

(d) Manufacturers shall make available the instructions referred to in subsection (a)(1)(A) and the descriptions referred to in subsection (a)(1)(B) to their authorized dealers, and upon request to service and repair establishments, in high altitude areas.

DEFINITIONS FOR PART A

SEC. 216. (*a*) *As used in this part—*

(1) * * *

* * * * * * *

(7) The terms "heavy duty vehicle" and "heavy duty vehicle and engine" mean any motor vehicle (including the engine thereof) which has—

(A) a gross vehicle weight (as determined under regulations promulgated by the Administrator) of more than 8,500 pounds,

(B) a vehicle curb weight (as determined under regulations promulgated by the Administrator) of more than 6,000 pounds, or

(C) a basic vehicle frontal area of more than 45 square feet.

(8) The terms "light duty truck" and "light and duty truck and engine" mean any motor vehicle (including the engine thereof) with a gross vehicle weight (as detemined under regulations promulgated by the Administrator) of 8,500 pounds or less and a curb weight of 6,000 pounds or less (as determined under regulations promulgated by the Administrator) and which—

(A) is designed primarily for purposes of transportation of property or is a derivation of such vehicle,

(B) is designed primarily for transportation of persons and has a capacity of more than 12 persons, or

(C) has special features enabling off-street or off-highway operation and use.

(9) The terms "light duty vehicle" and "light duty vehicle and engine" mean a motor vehicle (including the engine thereof) designed primarily for transportation of persons which has a capacity of 12 persons or less.

(10) The terms "designated high altitude area" and "designated high altitude areas" mean all counties identified in the regulations in effect on December 31, 1981, regarding high altitude emission standards (40 C.F.R. 86.082.30(a)(15)) which are in a State in which one or more of such counties was in whole or in part during the calendar year 1981 a nonattainment area (as defined in section 172(2)) for carbon monoxide or photochemical oxidants.

(11) The term "high altitude conditions" means an elevation of approximately 5,300 feet above sea level, or a barometric pressure corresponding to such elevation.

(12) The term "low altitude conditions" has the meaning given to such term in regulations in effect on December 31, 1981 (40 C.F.R. 86.082-2), unless the Administrator by regulation promulgates another definition for such term.

(b) Notwithstanding the definitions of "heavy duty vehicle" and "light duty truck" in subsection (a), the Administrator, after notice and opportunity for a hearing, may define as a heavy duty vehicle

instead of as a light duty truck any motor vehicle with a gross vehicle weight (as determined under regulations promulgated by the Administrator) exceeding 6,000 pounds, but not exceeding 8,500 pounds, which the Administrator determines is designed primarily for commercial (including agricultural) use, and not for uses performed by light duty trucks. Any vehicles defined under the preceding sentence as heavy duty vehicles shall be subject to the high altitude provisions of sections 202(g), 206(f), 207(h)(1), 215, and 313(b). The high altitude emission standards established under section 202(g) for such vehicles shall be established under the provisions of such section applying to light duty trucks, except that with respect to such vehicles the references in that section to light duty truck emission standards shall be considered to be references to heavy duty vehicle emission standards.

TITLE III—GENERAL

* * * * * * *

DEFINITIONS

SEC. 302. (a) * * *

(b) The term "air pollution control agency" means any of the following:

(1) a single State agency designated by the Governor of that State as the official State air pollution control agency for purposes of this Act;

(2) an agency established by two or more States and having substantial powers or duties pertaining to the prevention and control of air pollution;

(3) a city, county, or other local government health authority, or, in the case of any city, county, or other local government in which there is an agency other than the health authority charged with responsibility for enforcing ordinances or laws relating to the prevention and control of air pollution, such other agency; **[**or**]**

(4) an agency of two or more municipalities located in the same State or in different States and having substantial powers or duties pertaining to the prevention and control of air pollution**[**.**]**; *or*

(5) for the purposes of receiving grants under section 105, a single agency designated for such purposes within an Indian reservation by the tribal governing body of a federally recognized Indian tribe.

* * * * * * *

(h) All language referring to effects on welfare includes, but is not limited to, effects on *precipitation,* soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, *whether caused by transformation, conversion, or combination with other air pollutants.*

* * * * * * *

CITIZEN SUITS

SEC. 304. (a) Except as provided in subsection (b), any person may commence a civil action on his own behalf—

(1) against any person (including (i) the United States, and (ii) any other governmental instrumentality or agency to the extent permitted by the Eleventh Amendment to the Constitution) who is alleged to be in violation of (A) an emission standard or limitation under this Act, [or] (B) an order issued by the Administrator or a State with respect to such a standard or limitation, *or (C) section 126,*

* * * * * * *

(d) The court, in issuing any final order in any action brought pursuant to subsection (a) of this section, may award costs of litigation (including reasonable attorney and expert witness fees) to any *prevailing or substantially prevailing* party, whenever the court determines such award is appropriate. The court may, if a temporary restraining order or preliminary injunction is sought, require the filing of a bond or equivalent security in accordance with the Federal Rules of Civil Procedure.

* * * * * * *

GENERAL PROVISIONS RELATING TO ADMINISTRATIVE PROCEEDINGS AND JUDICIAL REVIEW

SEC. 307. (a)(1) * * *

[(b)(1) A petition for review of action of the Administrator in promulgating any national primary or secondary ambient air quality standard, any emission standard or requirement under section 112, any standard of performance or requirement under section 111, any standard under section 202 (other than a standard required to be prescribed under section 202(b)(1)), any determination under section 202(b)(5), any control or prohibition under section 211, any standard under section 231, any rule issued under section 113, 119, or under section 120, or any other nationally applicable regulations promulgated, or final action taken, by the Administrator under this Act may be filed only in the United States Court of Appeals for the District of Columbia. A petition for review of the Administrator's action in approving or promulgating any implementation plan under section 110 or section 111(d), any order under section 111(j), under section 112(c), under section 113(d), under section 119, or under section 120, or his action under section 119(c)(2) (A), (B), or (C) (as in effect before the date of enactment of the Clean Air Act Amendments of 1977) or under regulations thereunder, or any other final action of the Administrator under this Act (including any denial or disapproval by the Administrator under title I) which is local or regionally applicable may be filed only in the United States Court of Appeals for the appropriate circuit. Notwithstanding the preceding sentence a petition for review of any action referred to in such sentence may be filed only in the United States Court of Appeals for the District of Columbia if such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that such action is based on such a determination. Any petition for review under this subsection shall be filed within sixty days from the date notice of such promulgation, approval, or action appears in the Federal Register, except that if such petition is based solely on grounds arising after such sixtieth day, then any petition for review under this subsection shall be filed within sixty days after such grounds arise.]

(b)(1) A petition for review of any final action of the Administrator under this Act which is locally or regionally applicable may be filed only in the United States Court of Appeals for an appropriate circuit. A petition for review of any final action of the Administrator under this Act which is nationally applicable may be filed in the United States Court of Appeals for the District of Columbia or in any United States Court of Appeals for a circuit in which the petitioner resides or transacts business.

(2)(A) If petitions for review of the same agency action have been filed in two or more courts of appeals and the Administrator has received written notice of the filing of the first such petition more than thirty days before receiving written notice of the filing of the second petition, then the record shall be filed in that court in which the first petition was filed. If petitions for review of the same agency action have been filed in two or more courts of appeals and the Administrator has received written notice of the filing of one or more petitions within thirty days or less after receiving written notice of the filing of the first petition, then the Administrator shall promptly advise in writing the Administrative Office of the United States Courts that petitions have been filed in two or more courts of appeals, and shall identify each court for which he has written notice that such petitions have been filed within thirty days or less of receiving written notice of the filing of the first such petition. Pursuant to a system of random selection devised for this purpose, the Administrative Office thereupon shall select the court in which the record shall be filed from among those identified by the Administrator. Upon notification of such selection, the Administrator shall promptly file the record in such court. For the purpose of review of agency action which has previously been remanded to the Administrator, the record shall be filed in the court of appeals which remanded such action.

(B) Where petitions have been filed in two or more courts of appeals with respect to the same agency action and the record has been filed in one of such courts pursuant to paragraph (1), the other courts in which such petitions have been filed shall promptly transfer such petitions to the court of appeals in which the record has been filed. Pending selection of a court pursuant to subsection (1), any court in which a petition has been filed may postpone the effective date of the agency action until fifteen days after the Administrative Office has selected the court in which the record shall be filed.

(C) Any court in which a petition with respect to any agency action has been filed, including any court selected pursuant to paragraph (2)(A), may transfer such petition to any other court of appeals for the convenience of the parties or otherwise in the interest of justice.

(3) Any petition for review under this subsection shall be filed within one hundred and twenty days from the date notice of such promulgation, approval, or action appears in the Federal Register, except that if such petition is based solely on grounds arising after such one hundred and twentieth day, then any petition for review under this subsection shall be filed within sixty days after such grounds arise.

[(2)**]***(4)* Action of the Administrator with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in civil or criminal proceedings for enforcement.

* * * * * * *

(d)(1) * * *

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(9) In the case of review of any action of the Administrator to which this subsection applies, *or of any determination by a State or a Governor under section 165(d)(2)(C)(iii) or 169A(d) that an action is or is not in the public interest,* the court may reverse any such action found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

(D) without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

* * * * * * *

(f) In any judicial proceeding under this section, the court may award costs of litigation (including reasonable attorney and expert witness fees) *to a prevailing or substantially prevailing party* whenever it determines that such award is appropriate.

* * * * * * *

ADDITIONAL REPORTS TO CONGRESS

SEC. 313. *(a)* Not later than six months after the effective date of this section and not later than January 10 of each calendar year beginning after such date, the Administrator shall report to the Congress on measures taken toward implementing the purpose and intent of this Act including, but not limited to, (1) the progress and problems associated with control of automotive exhaust emissions and the research efforts related thereto; (2) the development of air quality criteria and recommended emission control requirements; (3) the status of enforcement actions taken pursuant to this Act; (4) the status of State ambient air standards setting, including such plans for implementation and enforcement as have been developed; (5) the extent of development and expansion of air pollution monitoring systems; (6) progress and problems related to development of new and improved control techniques; (7) the development of quantitative and qualitative instrumentation to monitor emissions and air quality; (8) standards set or under consideration pursuant to title II of this Act; (9) the status of State, interstate, and local pollution control programs established pursuant to and assisted by this Act; (10) the reports and recommendations made by the President's Air Quality Advisory Board; and (11)(A) the status of plan provisions developed by States as required under section 110(a)(2)(F)(v), and an accounting of States failing to develop suitable plans; (B) the number of annual incidents of air pollution reaching or exceeding levels determined to present an imminent and substantial endangerment to health (within the meaning of section 303) by location, date, pollution source, and the duration of the emergency; (C) measures taken pursuant to section 110(a)(2)(F)(v), and an evaluation of their effectiveness in reducing pollution; and (D) an accounting of those instances in which an air pollution alert, warning, or emergency is declared as required under regulations of the Administrator and in which no action is taken by either the Administrator, State, or local officials, together with an explanation for the failure to take action.

(b)(1) Upon the request of any national association of dealers, the membership of which includes a majority of the dealers selling light duty vehicles and light duty trucks in the United States, the Administrator shall compile data relating to the availability and distribution to such dealers located in designated high altitude areas of models of new light duty vehicles or light duty trucks manufactured by any manufacturer in any model year.

(2) In compiling such data, the Administrator may—

(A) utilize information submitted to him by the national association, any dealer, or any affected manufacturer; and

(B) reasonably require any manufacturer specified in the request filed pursuant to paragraph (1) to submit to the Administrator the data set forth in paragraph (3), so long as such data does not obtain or publish information which would identify shipments to individual dealers.

(3) Not later than six months after the date on which a request is made under subsection (a), the Administrator shall submit to the Congress and publish in the Federal Register a report setting forth the data compiled under this subsection. For each model year subject to such request the report shall, with respect to any affected manufacturer, include—

(A) a list of each new light duty vehicle or light duty truck model subject to an exemption under section 206(f)(4); and

(B) a statement of the number of new light duty vehicles and light duty trucks of each model specified in the request sold to motor vehicle dealers located in designated high altitude areas and the total number of each such model sold by such manufacturer elsewhere throughout the United States.

(4) If requested as provided for in paragraph (1), the data compiled, submitted, and reported to the Congress under this subsection shall also include any reasonably available data on the costs of complying with the high altitude emission standards required by section 202(g) and any effect of those costs on sales of vehicles subject to such standards. If necessary to allow adequate time to gather

such data, the Administrator may postpone by six months the requirement of paragraph (3) for submitting to the Congress and publishing in the Federal Register the portion of such report required by the first sentence of this paragraph.

(5) For purposes of this subsection, the term "model" includes each engine and transmission combination within a vehicle line. All other terms used in this subsection shall have the same meaning as in part A of title II.

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APPROPRIATIONS

SEC. 326. (a) * * *

(b)(1) * * *

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(c) There are authorized to be appropriated to carry out the provisions of this Act other than section 182(b)(2),(c), (d) and (i) and other research, development, and demonstration activities, $177,000,000 for fiscal year 1983 and $200,000,000 for each of the four fiscal years beginning thereafter.

○